

RECORD

Collection book of F. R. Fosberg

#16

beginning # 25527

ending # 26153

Descriptive passages
photographed for file B. Decker
1974

Collection and Field Note Book

No. 16

(July 12, 1946 - August 2, 1946)

(25527 - 26153)

MANU, MANA, MANA

OF CAROLINE ISLANDS

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of F. R. Fosberg

#16

beginning #25527

ending #26153

Descriptive passages
photographed for file B. Decker
1974



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Collection book
of F. R. Fosberg

beginning #25527

Impermant

Jivon

from subvillage
of Suech
of Rull
distinct

betel

with seed
green with
piper leaf
& lime from
burnt coral

up to can
be used but
is too hard
making swallow
or spit out

1944 Caroline Is.

July 12 - Mt. Matade,
Yap Island
patch of moist woods
on saddle of mt. the
most conspicuous tree is
Calophyllum inophyllum
25527 *Scaevola frutescens* (Mill.) Kr.
scattered in thickets
on edge of forest

28 *Premna* ^{*obtusifolia* R. Br.} ~~*integrifolia*~~ (*obtusifolia*)
occasional

29 *Psychotria*
rare

30 *Lygodium circinnatum*
rare ["pii" used to tie palm leaves
together for making thatched
roofs. even if dried well]

31 *Vittaria elongata* [lasts 4-5 years,
longer than palm leaves]
common, epiphytic on tree trunks

32 *Schizaea dichotoma*
common in bare spots
on forest floor

33 *Randia carolinensis*
one tree seen

34 *Macaranga* ^{"yafon"}
common around edges of woods

35 *Macaranga*
common

36 *Macaranga*
common

Yap Is.

160 m.

shrub 2 m. tall,
flowers white; fruit
white. "naz" or "nath"
small tree (others much
larger); flowers ^{pale} green
unpleasantly aromatic.
shrub 1 m. tall, ["ar"]
flowers white. "tamlauai"
vine, twining in
bushes.

roofs. even if dried well ["pu" (name also used for
a thin variety of bamboo)]
tendrils coriaceous, arching

rhizome deeply buried,
erect. "lau" one of many kinds
of lau.

small tree, sterile
"maluag" 2 kinds known, one with
fruit, the other (this one) not, called the male.

tangled, weak culms,
number of spikes variable.

small tree ♂ & ♀
flowers yellow-green.

small tree
♀ fls. green "bid" wood for firewood.
leaves used for toilet paper for children, as
they don't have diapers.

bearing
"atanai" leaf?
cattle feed.

1946 Caroline Is.

25537 Trema

rare at edge of forest

38 Cerbera manghas

common

said to have been recently
introduced from Palau.39 *Isora* ^{casei Hance} *carolinensis*

occasional

flowers garlands
used for around head
put around dancing;
when dancing
wood for scrub
nets for
fish.

40 Hedyotis

occasional in thicket

41

~~along trail~~ edge of forest

42 Polygala

along trail, common

43 Meryta *suffruticosa* Volk.

occasional in woods

same - bare, rather
recently burned ridge,
grassy, with *Lygodium*
scandens coming up everywhere.

(44 *Commersonia bartramia* (L.) Merr.

common in edge of forest

45 *Rynchospora rubra* (Lam.) Malins

common on slopes

46 Cyperus

rare

47 Euphorbia

occasional

Yap Is.

shrub 4 m. tall slender
"manin" when bananas are picked green and needed
right away for a feast, this and some other plants
are stuffed between the bananas and they ripen 3-4 days more
quickly

shrub 2 m. tall, (others
of tree size), flowers
fragrant, white with
buff eye, fruit green,
smooth. "ria" said to

→

shrub up to 2.5 m. tall,
flowers "gachen" ←
erect, 1.5 m. tall; flowers
white, corolla funnel form.
shrub 2 m. tall,
flowers pink. "chirug"
flowers white

small tree, fruits
greenish white.
"changad"

"napot" bark used for
making loin cloths.

small tree, branches
distichous, flowers white
loose tufts "pupul"

spikelets yellowish. "pue"
st

erect, arching at tips. "murdai"

1946 Caroline Is.

25548a

Phyllanthus

25548

Lesamum indicum

along trail

49

Ipomoea gracilis ^{liboralis} Bl.

along trail

50

Tacca leontopodioides ^{etal.}

common on open ridgetop

51

Scleria

common

52

Fimbristylis

rare

53

Ipomoea digitata L.

common

55

Mussaenda frondosa

one plant seen in thicket

"bech" (no 25554)

56

Glochidion

occasional in thickets

57

Hibiscus tiliaceus

common in thickets

58

same - low on east ridge

thickets and burned area

58

Paspalum

burned area, common

59

Selaginella

sides of shallow ravine

60

Hedyotis

thickets

"ad" stems tough
inner part of stem called "maling" used to
weave with bamboo to make fish traps, can
stand salt water for even 6 months

25560a Nepenthes mirabilis
climbing in thickets

Yap Is.

"nel" name used
in extreme east of island
"kainuted" name used
in middle
part of island.

fls. pale pink
"mazeri" or "mathei"

flowers purple "gilij"
leaves used to make a delicious soup.

flowers green "chobchob" tuber
made into ~~flour~~
islands called "melkin" (or American) flour
used for making bread. This learned from Chamorro,
plant ignored previously.

culms conspicuously
spreading. "yapin"

erect "bel" used for weaving
small baskets for tobacco, etc.

climbing on bushes,
flower purple. "dodai"

shrub 3 m. tall.

bracts white, flowers
bright orange-yellow;
fruit almost globose.

shrub 2.5 m. tall,

flowers yellowish green.

low tree, flowers yellow.

"ngale" inner bark used to make rope,
to make outer ornament of loincloth; young

wood resilient, so used for frame of fish nets, also floats,
wood split and used for ribs of boats,
doesn't rot easily.

spreading tufts "chijal" or
"chijal"

"lan" "lan ni noni"

erect shrub 1-2.5 m. tall

"azbiloi"

"ngale"
fine wood

40 m

1946 Caroline Is.

July 13 - Yap, Yap I.
small peninsula in
harbor, old Shinto temple
grounds.

25561

Zaysia matrella (L.) Merr.

abundant ~~in the~~
just above water

62

Eugenia

63

Ficus macrophylla
planted around grounds

#

same ^{lower} slopes of Mt. Matade
just above town
thick bushy second growth
forest.

64

Eugenia Decaspermum fruticosum Forst.
common

65

Tectaria

occasional in deep shade

66

Polypodium scolopendrium
common

67

Morinda citrifolia
occasional

68

Eugenia Decaspermum fruticosum Forst.
common

Yap Is.

forming a dense turf

Tree 5 m. tall

flowers white, fruit green.
Tree 5 m. tall, stipules
pink; sterile.

shrub ~~2.5~~ 3 m. tall,
fruit bright black
when ripe.
rhizome short, erect.

fronds erect, rhizome
creeping, light green.

small tree 3 m. tall,
flower white, fruit white,
translucent.

shrub 3 m. tall, flowers
white to pinkish;
fruit immature

25569 *Allophylus*
common along trail

70 *Clerodendrum* ^{rum} ~~in~~ *inermis*
occasional

71 *Glochidion*
common

72
rare

73 *Polyscias grandifolia* Volk.
common

74
very common in openings

75 *Wedelia biflora*
common along trail

76 *Polyscias grandifolia* Volk.
common (probably same as #25573)

77 *Pongium edule* Reinw.
occasional

yap

semi-scandent
shrub; flowers white;
fruit immature.

semi-scandent
shrub, flowers white
with purple stamens
and pistil.

small tree; flowers
yellow.

Tree 10 m. tall, with
~~the~~ a general rusty
appearance, flowers
pale green.

shrub 2 m. tall

shrub 2-3 m. tall,
flowers pink.

scandent herb,
flowers yellow.

shrub 3 m. tall, fruit
immature, inflorescence
terminal, compound

Tree 15 m. tall; fruit
brown, broadly ellipsoid,
not quite mature,
inside pulpy with
radially arranged rows
of large seeds. These
smelling of bitter almonds

25578 *Inocarpus fagifera* (Park.) Forst.
common

79

epiphytic on tree trunks

80

Dryopteris

common in openings along trail

81

Fimbristylis

along trail, rare

82

in trail

83

Glumella trifolia

in bushy woods

84

Glochidion

common in woods

85

Rhus

~~can~~ occasional

86

Columella trifolia

bushy roadside

tree 10 m. tall (others much taller), beginning to have buttresses; fruit lenticular, roasted in shell or boiled out of it for food. an important food here

leaves fleshy - coriaceous; flowers bright yellow; fruit green.

flowers pale violet.

vine climbing in bush, fruits deep purple, juicy rather bitter-acid.

small tree, flowers yellow.

small tree, somewhat lactiferous.

vine climbing over bushes, flowers green.

1946

Caroline Is.

July 14 - Maki, north end
of Tomil-gagil I.
slightly higher ground in
and around mangrove swamp.

25587

common

88

common locally

89

common

90

91 *Randia cochinchinensis*92 *Callicarpa*

rare

93 *Cynometra*

common locally

94 *Scleria*

common locally

95 *Hedyotis*

along trail

July 14 - high ground
s. w. of Maki

Tomil-gagil I.

badly eroded red volcanic
soil, covered with manganese
nodules.

Yap Is.

tree about 5 m. tall (others
quite large).

- caespitose, leaves plicate,
culms ascending.

- tree 5 m. tall (others
much larger) flowers
green.

- shrub, bud white

slender tree 6 m. tall,
fruit immature.

- shrub 1 m. tall,
flowers purple.

- tree 3 m. tall, fruit
immature.

- culms about 1 m. tall

shrub 1 m. tall, flowers
purple.

vegetation low,
principally *Gleichenia*,
with clumps of sedges,
various shrubs, *Pandanus*,
and *Lycopodium cernuum*

25596 *Lycopodium cernuum* L.
common, subdominant

97 *Myrtella bennigseniana* (Vahl.) Diels
common, one of dominant shrubs

98 *Rynchospora*
common

99 *Delaginella*
common sheltered by bushes

25600 *Eugenia*
common

01 *Nepenthes*
common

02 *Hedyotis*
common

03
common, subdominant
in places

04 *Rynchospora*
in old roadway, very local

05
common

06 *Fimbristylis schoenoides* var. *foliosa* (Kuhn) Forb.
occasional

07
common

08 *Spathoglottis*
rare

25605 a *Glaichenia linearis*

spreading by stolons

locally.

shrub 0.8 m. tall,
flowers white, mostly
sterile at this season.

caespitose, some heads
viviparous.

dwarfed, 1 m. or less tall,
petals white, stamens pink.

dwarfed, 2-4 dm. tall,
flowers purplish-maroon.

dwarfed; flowers
purple.

shrub up to 1 m. tall,
leaves glossy, flowers
white.

caespitose

shrub 0.6 m. tall.
flowers pale pink

caespitose

caespitose

terrestrial
flowers white

25609

occasional

10

*Timonius*rare in brush (more
common in woods nearby)

11

Premna obtusifolia L. B. (pointed lvs.)

rare

July 14 - w. side of head of
n.e. bay on Tornil-Gagil I.
built up stone trail in
mangrove swamp. 1 m.

12

Pteris

common locally

July 14 plateau west of
Gatschapar and north of Ma.
Tornil-Gagil I.

eroded volcanic soil
with *Gleichenia*, brush
and *Pandanus*, these abundant.

13

in old roadbed

14

scattered

15

Timonius

scattered

15a

Spathoglottis

rare

Yap Is.

shrub 1 m. tall,

flowers greenish-yellow.

shrub 1.5 m. tall

(tree in wooded ravine)

fruit immature; flowers white

shrub 1 m. tall,

flowers pale green,

ripe fruit purple-black.

erect from a buried
horizontal rhizome.

herb from strong root crown.

flowers lavender.

bush 2.5 m. tall, fruit

deep blue-black.

bush 1.5 m. tall,

flowers white

flower white

July 14 just north of Ma,
Tomil-Gagil I.

25616 edge of mangrove swamp
Scyphiphora hydrophyllacea
common

July 14 between Ma and
Maerur, Tomil-Gagil I.
roadside thickets

17 *Polyscias*

18. *Leizostachyum luma* (Blas.) Merr. or near
common det. McClure

18a *Bambusa vulgaris* Schrad. ex Wendl.

Our visit to Yap was
scarcely long enough
to enable us to get any
picture of the vegetation.

The island, as far as
seen, is fairly well
fringed by mangrove
swamp with *Rhizophora*,
Bruguiera, *Scyphiphora*,
etc. Just above this is
forest with *Cynometra*,
25587, 25589. Most of the
vegetation, if not all,
above the mangroves, is

shrub @ 1 m. tall,
flowers pink.

erect shrub 2 m. tall,
panicle red, fruits
blue.

close clump, canes
mostly slender.

secondary. The greater
part of the substratum
is soil weathered from
a green "amphibolite" schist.
A strip of volcanic soil,
deeply weathered, runs
northward across the
middle of Tomil-Gagil I.
Rumung is said to be
granitic. No bridge.

Where burning has
not been excessive the
second growth is of dense
wet thickets of *Calophyllum*,

1946

Caroline Is.

undergrowth
of brush with
Nepenthes,
Pennisetum,
etc.

Knocarpus,
Engenia, *Maia ranga*,
Morinda, *Glochidion*, etc.
The more gently sloping
lowland areas are covered
by coconuts, breadfruit,
Knocarpus, *Mangifera*,
Pandanus, etc.
Patches of *Cyrtosperma* are
found here
and there, raised for food.
The population is quite
sparse, but judging
from the old house platforms,
tumble-down huts, etc.
must once have been much
greater.

In areas that have
been much burned over
there is developed a
manifestation of the
grassland vegetation such
as that found on the
volcanic soil of Guam,
but with *Miscanthus*
conspicuously absent.
The capitate *Rynchospora*,
Tacca, *Cyperus* sp., *Gleichenia*,
Lycopodium cernuum,

Yap Is.

Lycopodium scandens,
a *Scleria*, ~~the~~ the erect
Fimbristylis, and one
or two grasses characterize
this near the top of Mt.
Matade. For the south
end of Yap, see H. S. S. S. S.
notes. Two species of
Nepenthes are found
there, one a dwarfed
form of the one common
in the thickets.

On Tomil-Gagil, on the
strip of volcanic soil
mentioned above, this
vegetation is very well
developed, forming an
extensive savanna-like
formation, with *Gleichenia*
dominant usually, with
Lycopodium cernuum, and
25597, very common,
Nepenthes, *Rynchospora*,
Fimbristylis 2 sp., 25607,
25603, 25605 and various
other shrubs common
locally; *Pandanus*
tectorius in places is

1946

Capoline Is.

so abundant as to give a definite aspect to the landscape. The *Repenther* is the same as that common in the thickets below, but very dwarfed. Where in the thickets it may be 3-4 m. long, here it is 2-4 dm. but the parts are about the same size.

Although there is no way to prove it, it seems probable that this vegetation here also is the result of excessive burning over a long period of time. Several fresh burns were noted, and the *Pandanus* in places showed the effect of fire. The soil is very seriously eroded and is in places only protected by a pavement of mangrove nodules. It seems to be too sterile

Yap Is.

now to support more than a thin vegetation. The *Gleichenia* acts as some protection where it is thick. The subsoil seems to be rather deep in most places. No top soil exists any longer in most places.

no! Bridge

On the (granitic) soils of Rumung is said to be an extensive savanna. This is likely of the same character, but was not visited.

Various cultivated trees and shrubs are found throughout the lowlands, persisting either from the Japanese or native occupation of the land (probably the former). Most are ornamentals.

1946 Caroline Is.

July 17 - from ship
going from Pelilieu to Koror

Pelilieu - natural vegetation
completely destroyed except
a strip along s.e. coast.
Vines now cover Bloody nose
Ridge and skeletons of trees
on other parts.

Ngabad I. - slightly raised
coral - wooded, flat.

Ngarsensin I. - same.

Gorokottan I. - same.

Ngarklim I. - same.

Eil Malk - high coral
with steep sides, whole
s. side, at least, undercut
except one tiny beach west
of middle. All densely
wooded. Small islands
surrounding it same.
Palms visible on ridge.
Much Pandanus on lower slopes.
No habitations visible or any
sign of human activity.

another
beach on west

Palau

H.O. chart 6102
Ed 1. Apr. 1944

cluster of islands due
west of Eil Malk much
the same but with more
beaches and some flats
just above sea level on
s. side. Second cluster west
apparently same.

On Eil Malk *Billbird*
is very abundant. Also
on some of the small islets
what appears to be a *Dracaena*.
Many beaches on west
side of Eil Malk.

gaiangas
see p. 72
(gianyaru)

Good beach on ^{island south of} south point
of Urukthapel I. and several
to west of it ^{on Urukthapel}. Also one
on small islet between
Eil Malk and Urukthapel
in Yoo Passage.

Some low flat land on
islet south of s. point of
Urukthapel.

~~that~~ The west arm of
Urukthapel, Gamudok, and
Apurashokorn and
Rattakodokorn Islands are
essentially similar to Eil Malk.

1946

Caroline Is.

all are very densely wooded except on absolutely perpendicular cliffs.

One small beach near north west point of Garmudoko - also peculiar Pandanus thicket on point.

The myriad of small islets within the arms of Urukthapel seem to be much the same. Perpendicular sides are common, undercut at base. Beaches are few.

In Malakal Harbor is the line between the ~~coral~~ raised coral and volcanic regions. The ~~Koror and Malakal~~ ^{Koror and Malakal} ~~are volcanic, everything~~ ^{are volcanic, everything} ~~of the islands to the north~~ ^{of the islands to the north} ~~of it are coral, but most~~ ^{of it are coral, but most} ~~are volcanic.~~ ^{are volcanic.} The two can be readily distinguished by the difference in contour. The volcanic slopes are about 30° from horizontal while those of the coral are from vertical to about 70° from horizontal.

Palau

Arakabesan is ~~mostly~~ volcanic, largely grass-land, some forest on west side, esp. on n.w. slope.

Ngurur is broken woods, ~~appears to be low coral~~ apparently tuff.

Eomogan, w.w. of Eil Malk, has good beaches and some flat land, as well as steep coral mts. It has apparently suffered extensively from bombardment. It is connected by a sand spit which may be awash at low tide with Abappaomogan, which has a small sandy peninsula but which is surrounded on the s.w. exposure, at least, by perpendicular cliffs.

On the e. part of Urukthapel, probably at Ngaramedin Pt., is a planting of coconuts on some flat land at the base of the cliffs.

1946 ~~Palaan~~ Caroline Is.

July 13 - W. end of
Arakaberan I. 1-20 m.
volcanic breccia and
soil derived from it; weedy
open ground and
secondary woods and thickets.

75019

Hedyotis

steep slope with grass
and thickets

70

Tacca

in openings on steep slope

71

Ixora carolinensis cathartica
common in woods

72

common in undergrowth
in woods.

73

Glochidion

common in woods
and thickets

74

Allophylus

occasional in thickets

75

Fcleria

common in wet places
just above
sea level

76

Canavalia cathartica Thouars
local, just above
sea level.

Palaan

tangled shrub 1.5 m.

tall, stems green;
flowers white.

herb 2 m. tall, flowers
green, bracts blackish.

Thouars

shrub 2 m. tall,

flowers vermillion

herb 2-3 m. tall,

fruits orange when ripe.

tree 10 m. tall, 2 dm.

thick, flowers reddish
green. leaves on

upper part of tree

larger than those

on lower shaded branches.

semi-scandent shrub,

flowers white.

herb 1 m. or more

tall.

great vine covering
everything, flowers
rose pink.

1946 Caroline Is.

- 25627 *Premna obtusifolia* A. Br. (Winters L.)
common in woods and thickets
- 28 *Maristima*
common just above sea level at top of beach and along road
- 29 *Macaranga*
common in woods and thickets, one of dominant plants
- 30 *Timonius*
rare in woods
- 31 *Centotheca latifolia*
common in woods
- 32 *Lygodium circinnatum*
occasional in woods
- 33 *Cheilanthes*
occasional in open places, especially on rocks
- 34 *Lcleria*
in woods, common
- 35 *Callicarpa*
rare in edges of thickets on slopes
- 36
common in thickets on steep slopes

Palau

- small tree 4 m. tall, aromatic when broken; flowers green, aromatic; ripe fruit blue. prostrate, branches ascending.
- 5 m. small tree 5 m. tall
♀
- 5 m. small tree 4 m. tall, fruit immature
- 8 m. caespitose, recumbent
- 8 m. ~~prostrate~~ prostrate vine-like, twining around trees, pinnae demorphic, fertile ones rare.
- 5 m.
- 8 m. loosely caespitose in small tufts.
- 10 m. erect shrub 2 m. tall, flowers rose purple.
- 10 m. shrub 1.5 m. tall, flowers pinkish white

- 25637 *Scleria*
scattered in deep grass ^{on steep slope}
- 38 *Lycopodium cernuum*
in openings on steep slope
- 39 *Nepenthes*
in small thickets
- 40 *Colubrina asiatica*
~~shrub~~ in thickets
- 41 ~~Eugenia~~ *Decaspermum fruticosum* Forst.
common in brush
- 42 *Callicarpa*
occasional in thickets
- 43 *Jussiaea*
common in open about wet places
- 44 *Tephrosia*
common in open places
- 45 *Polygala*
common in open disturbed places
- 46 *Fimbristylis*
occasional in open
- 47
rare on rock faces
- 48 ~~Miscanthus~~ *Saccharum spontaneum*
common on rocks
- 49 *Euphorbia*
open places

- solitary culms
10 m. 1 - 1.5 m. tall.
supported on grass
- 10 m. vine-like, ascending through brush, leaves acting as tendrils, stems very tough.
- 5 m. slender shrub, flowers yellow.
- 2 m. shrub 3 m. tall, ripe fruit black.
- slender shrub 2 m. tall, fruit light purple.
- 3 m. suffrutescent herb 1.5 m. tall, petals yellow, 1 cm. long, scarcely emarginate.
- ↓
herbs 1 m. tall, flowers whitish.
flowers white
- caespitose
- fls. pale lavender to white
- Thickets 2 m. tall
- herb up to 0.8 m. tall, flowers white.

- 225650 *Desmodium*
common, especially around
bases of cliffs
- 51 *Pityrogramma calomelanos*
rare on rock cliffs
- 52 *Pteris*
common on rock cliffs
- 53 *Euphorbia*
common on flat open
ground
- 54 *Passiflora foetida*
occasional in open
and thickets
- 55 *Stachytarpheta*
common in open places
- 56 *Ischaemum*
abundant in open places
- 57 *Paspalum vaginatum*
abundant on flats
near sea
- 58 *Centella asiatica*
common
- 59 *Averrhoa belembi* L.
occasional in thickets
- 60 *Polyscias*
occasional in thickets

225657a *Dryopteris goyoides*

Palau

shrub 1 m. tall,
flowers purple.

fronds ^{very} pale yellow
powdery beneath

very prostrate

vine flowers white
with corona segments
purple in basal half.

— suffrutescent herb
1 m. tall, flowers deep
purple.

— vine-like, elongate

prostrate, forming mats.

prostrate, rooting
at nodes

— small tree 5 m. tall,
cauliflorous, flowers
from pulvini, purple,
fruit very immature

— shrub 3 m. tall, flowers
coral red, leaves 3 parted,
doubly compound, fruit green.

1946

Caroline Is.

- 25661 *Cyclophorus*
epiphytic on tree trunk, abundant
- 62 *Taeniophyllum*
epiphytic on tree trunk
- 63
epiphytic on tree trunk
- 64 *Andropogon brevifolius* Sw
on talus at foot of
rock cliff, common
locally
- 65 *Albizia carpinifolia* var. *vaginalis*
common on open flats
- 66 *Dendrocalamus forbesii* Ridley a near det. F. A. McClure
common in thickets
- 67 *Pandanus*
common in thickets on
steep slopes
- 68 *Flacourtia rukam*
common on rocky slopes
- 69 *Derris*
common in thickets
on rocky slopes
- 70 *Hedyotis*
rare in edges of thickets
on rocky slopes

Palau

- fronds ~~coriaceous~~ coriaceous
roots flat, bright green,
buds green.
densely caespitose,
flowers red.
- 4m small tufts,
culms weak
- Dom. very prostrate, large
clumps flowers dull purplish.
forming dense clumps
of slender canes,
leaves conspicuously
broad, young canes
hispid, sheaths hispid
shrub 3-4 m. tall,
ripe fruit orange,
leaves spirally
arranged.
- 5m small tree 4 m. tall,
fruit immature
sterile vine, leaves
thin - coriaceous,
reddish when young.
- 3m suffrutescent herb,
tangled, flowers white,

1946 Caroline Is.

July 19 Gammiscan,
Gammiscan River, ^{central} Pabeldaob
grassy valley surrounded
by low hills with
small pineapple

25671

Polygala

Trail in grassy valley
floor

72

Cox lachryma-jobi

grassy wet valley floor
"pa nga meiz"

73

Cheilanthes

eroded area, rare

74

Lehizaea dichotoma

in small patch of woods

75

Dracaena

occasional on eroded
hill in thickets and open

76

edge of thicket on eroded hill

77

common on eroded area

78

Rynchospora

common on eroded area

79

Lycopodium cernuum

very common on eroded
area, in some places subdominant

Palau

0-50 m.

plantations, patches
of woods and eroded
areas, the soil red clay
~~and~~ filled with
thin, dike-like concretions.
flowers white

branching herb
2 m. tall young fruits
yellow, then turning
black, then pearl gray

rhizome very deeply
buried.
sparsely branched tree
6 m. tall, only old
dried inflorescences available.
shrub 1.5 m. tall,
fruit green but dehiscent.
caespitose,

small tufts.

spreading by arching
stolons.

1944 Caroline Is.

25680

common on eroded area

31 Pteris

rare on eroded ~~area~~ slopes

32 Phyllanthus

common on eroded area

33 Panicum

common on eroded slopes

34 Drosera

rare on bare eroded earth
outcrops

35 Cyathes

common in thickets
above cultivated fields36 Blechnum orientale L.
very common ~~in grass~~ generally

37 Myrsine

~~scarcely~~ rare in thickets

38

common in thickets and
eroded area

39

occasional in thickets

Palau

dwarfed bushes 2-4 dm.

tall, flowers pale pink
to white.

rhizomes buried.

shrub 1-2 m. tall

sparsely or not branched.

small loose tufts

sessile rosettes, glandular

hairs brick red; flower

buds pink.

stem very short,

lower pinnae deflexed,

~~leaf~~ pinna tips and

margins curved downward.

rosettes with very

short erect rhizome,

fronds ascending, sterile

ones crinkled a little.

small tree 4 m. tall,

densely branched,

mature fruit rare, deep purple.

small tree 4 m. tall,

(in eroded places much

smaller) flowers white.

small tree 5 m. tall,

in bud only

25690

- common in thickets
- 91 *Ixora carolinensis* ^{casii Hance}
occasional in thickets
- 92 *Gleichenia linearis* var. ^{pauciflora}
very abundant, dominant
in eroded and disturbed
areas
- 93 *Morinda pedunculata*
common in thickets and
occasional in open.
- 94 *Lygodium scandens*
weed in pineapple patch,
common everywhere
- 95 *Coffea arabica*
around old settlement
- 96 *Antirrhinum*
persisting around old
japanese settlement.
- 97
rare on slope along trail
- 98 *Wikstroemia elliptica*
common on slopes at
edges of thickets

small rounded tree

- erect shrub 2-3 m.
Tall, flowers vermillion,
thyrses red; fruit green.
forming tangles
up to 1 m. deep, much
lower on sterile eroded
places.
- erect tree-like shrub
3 m. tall, flowers
gray-blue, fruit green.
twining; rhizome
buried.
- tree 6 m. tall; flowers
rare, white, only one seen
pentamerous, fruit
mostly green, ripe
ones red.
- flowers deep purple
with white palate.
- loose tufts, recumbent.
- shrubs 1-2 m. tall,
bark tough; flowers green,
ripe fruit red.

1946 Caroline Is.

- 25699 *Dianella*
occasional at edges
of thickets and on open slopes
- 25700 *Pandanus*
common in thickets and
on eroded area
- 01 *Nepenthes*
common on eroded area
- 02 *Cladium*
common on eroded area
- 03 *Eugenia* ~~*Decaspermum*~~ *fruticosum* Forst.
common in thickets
and on eroded area
- 04
common in thickets and
on eroded area
- 05 *Hedyotis*
very common and
characteristic on
eroded area
- 06 *Commersonia bartramia* (L.) Merr.
occasional in thickets
- 07 *Spathoglottis*
rare in eroded area
- 08 *Alternanthera versicolor*
in deep grass near river

Palau

- caespitose, stems about
1-1.5 m. tall; flowers
sky blue just toward lavender.
fruit dark blue, rare.
erect, bushy, 1-2 m.
tall, fruit green.
- dwarfed 3-5 dm. long
flowers maroon.
caespitose
- shrub 2 m. tall, flowers
white with pinkish
stamens. ripe fruit black.
small dense tree
5 m. tall; fruit
pale green.
- erect scarcely branched
shrubs 1-2 m. tall,
thyrses and hypanthium
purple, calyx lobes
white with purple tips;
corolla purple.
- shrub 2 m. tall;
flowers white.
flowers white.
- ascending weak stems

25709 *Passiflora quadrangularis*
in thickets near river edge

10

occasional on grassy river bank

11

rare in weedy places

12

Maranta

common along river banks
in thickets

13

Columba burnettii

common in river bank thickets

14

Davallia solida

on old stump

15

Uncaria korrorense

common in thickets

16

Ananas comosus (L.) Merr.

considerable patches,
evidently planted by Japanese
for canning.

17

Ananas comosus (L.) Merr.

small patches, possibly
planted by Japanese for canning

large herbaceous vine,
fruit 2 dm. long or more
when ripe, ^{dull} salmon-color
outside, flesh more or
less watery tasting, pulp
around seeds delicious
flavored, sweet-sour, juicy.
shrub 1 m. tall, flowers
white.

herb 1-1.5 m. tall, flowers
white.

tree up to 3 m. tall, flowers
yellow with reddish mottling
in petals. calyx paler.
rhizome creeping on old stump

scandent shrub forming
tangles; flowers pinkish yellow.
fruit reddish

"Smooth Cayenne"

fruit in abandoned patches
quite small, about 1 dm. long or less
sweet and juicy.

"Wild Kailua?" fruit
rather small, 1-1.5 dm. long.
sweet, fairly juicy.

25713

Vitex

in thicket near river,
possibly planted

19

Acrostichum aureum

in edge of river (but
considerably above mangroves)

20

Glochidion

thickets along river banks

21

thickets along river banks

22

Ficus aspera

thickets along river

23

Barringtonia racemosa

thickets along river

24

Paspalum

open flat grassy wet land

tree 9 m. tall, flowers
violet.

erect clumps 1 m. tall.

tree 7 m. tall, fls. greenish
red.

small tree, leaves
pale and reticulate
beneath, latex white
but very soon turning
black; flowers white.
"tough" ^{it} said to be
extremely poisonous
to skin.

small tree 5 m. tall,
figs on trunk and larger
branches, rarely on twigs,
brownish green, becoming
lighter and greener when
ripened.

small tree, leaves
large, inflorescence
long pendent, flowers
rose color

culms almost erect,
fruits dark brown

1946 Caroline Is.

- 25725 *Ischaemum*
common on low flat open wet land
- 26 *Ischaemum*
common on low flat open wet land
- 27 *Trema*
occasional in thickets

July 20 - banks of river
below Aramiscan,

Babeldaob

- 28 dense riparian forest with
muddy soil, a few mangrove
formation species present
- epiphytic on tree trunk

- 29 *Freycinetia*
common climbing on tree
trunks, ~~mostly~~

- 30 *Ptilotum complanatum*
occasional on tree trunks

- 31 *Pterocarpus*
occasional

- 32
occasional

33

Palau

tangled

tangled

slender shrub 3 m. tall,
flowers yellowish green,
ripe fruit pink.

0 m.

epiphytes on relatively
few trees, but usually
abundant there.

vine several m. long,
dying at back; leaves
fleshy, roots long, tough,
whitish; buds and fruits.
liana many m. long,
mostly sterile.

pendent, weak, as much
as 1 m. long, lower stems
sharply 3 angled, upper
branches thin, flat, smooth.
tree 12 m. tall. flowers
yellow (out of reach).
tall tree; fruit green.

1946 Caroline Is.

25733 *Ophioglossum pendulum* L.
occasional, epiphytic on
tree trunks.

34 *Nephrolepis*
semi-terrestrial in old logs
and between them

35 *Lamadera indica* Gaertn.
dominant tree at edge of river

butresses becoming very numerous
and intricate as roots spread out,
serving as pneumatophores.

36 *Davallia solida*
epiphytic on tree trunks,
common

37 *Humata*
common, epiphytic on tree trunks

38 *fern*
common, epiphytic on tree trunks

39 *Derris trifoliata*
common about bases of trees

40 *Oberonia*
very rare, on fallen log

41 *Vittaria*
occasional on tree trunks

(ctd. on p. 62)

Palau

fronds weak, flaccid,
pendent.

more or less erect

tree up to 12 m. tall, with
buttressed trunk; umbels
pendent on slender peduncle,
flowers coral red, petals
and sepals falling very
readily.

frond leathery

rhizome with licorice odor.

extensive woody vine,
racemes for buds on
bare part of vines, leaves
on branchlets near tips
of vines; ^{older} buds pink.
flowers pale greenish
yellow.

1946 Caroline Is.

The Garamiscan River, Babeldaob, is formed at Garamiscan by the joining of 2 streams. Tidal influence is felt up to this point.

The riparian forest along the banks starts just above the union of the two streams.

Here *Acrostichum aureum* and *Barringtonia racemosa* are the only typical mangrove swamp species.

The commonest tree is #25713. Below Garamiscan the river meanders between low marshy banks.

Nipa appears. #25735 becomes the dominant tree. *Bruguiera* appears but is rare.

Gradually the river widens. The banks are full of various types of pneumatophores as various other mangrove swamp species come in. *Rhizophora* appears. *Nipa*

River banks
so close that
river is
shaded.

Palau

has become very common, lining the shore in places. Where the river is wide enough so sunlight is always available. *Nipa* drops out and *Rhizophora*, which has been minor, becomes dominant along the edges. *Sonneratia*, *Bruguiera*, and *Xylocarpus* are mixed with it. Meanders here occasionally penetrate to bases of hills.

Sonneratia is rare here but becomes more common seaward.

It is hard to say whether sunlight or salinity is the controlling factor in determining the abundance and relative abundance of these plants.

The distribution of epiphytes is very queer. Few trees have any (except *Davallia*) but those that do, have a great

1944 Caroline Is.

display of them. They become
rarer as the open bay is
approached. Most conspicuous
is a ~~so~~ *Nephrolepis*,
likely #25774, which forms
great masses on the rare
trees where it occurs. A

number of other ferns
Lycopodium sp., *Psilotum*,
Ophioglossum pendulum,
~~and~~ a number of orchids and
several mosses also are present.

As the bay is reached
Sonneratia takes over in
most places complete
dominance.

25742

Lindaea?

common locally on tree trunks

43

Hymenophyllum polyanthos

common locally on tree
trunks,

44

Cynometra

common locally

45

Orchid

common, epiphytic on tree trunks

Palau

A peculiar thing is
Freycinetia growing
at this level. It is
rare where the river is
wide but common
where it is shaded.

Tall forest does not
quite reach the bay.
A belt of low forest
of *Rhizophora* and *Sonneratia*
lines the bay.

forming dense mats.

tree with drooping
branches.

pendent, flowers cream
color.

1946

Caroline Is.

25746

Dutch

common on ^{mossy} tree trunks

- 47 *Lycopodium phlegmaria*
occasional on mossy tree trunks

- 48 *Acanthus ilicifolius*
patches at edge of water,
partially submerged at
high tide.

- 49 *Centotheca lappacea* (L.) Desv.

~~edge of~~ opening in swamp

- 50 *Schefflera odorata* (Blanco) Merr. & Rolfe
common, mostly in canopy

- 51 *Torenia*
one ~~plant~~ ^{patch} seen in mud
in opening in swamp.

- 52 *Agrostophyllum*
on mossy tree trunks

- 53 *Paspalum conjugatum*
dense solid stand on built-up
roadway running out
into swamp to river.

- 54 *Spathoglottis*
common on built-up ground
along roadway in swamp

- 55 *Eugenia* ~~Decaspermum~~ *fruticosa* Forst.
rare at edge of swamp

- 56 *Portulaca*
occasional in edges of swamp

Palau

pendent, very brittle.

suffrutescent herb;
flowers white.

loose tuft.

liana, fruit orange.

sterile and fruiting plants
only seen.

flower white, fruit black.

shrub 2.5 m. tall, flowers
white with purple stamens.
herb up to 3 m. tall, unbranched,
leaves in a conspicuously
spiral plane; ^{old} calyx red, ^{young} green;
corolla and stamens white.

1946 Caroline Is.

- 25757 *Fuirena*
in mud in opening in swamp

July 20 - low hills south
of Garamiscan River,

Babeldaob 1-15 m.
^{abandoned}
around ~~old~~ Japanese settlement,
overgrown with deep grass
and weeds, *Paspalum conjugatum* ^{dominant}

- 58 *Manihot esculenta* ^{Crantz}
abandoned patch, formerly
cultivated generally,
still largely persisting

- 59 *Carica papaya*
around houses (not
generally distributed
as a weed here).

- 60 *Allamanda cathartica* ^{var. *headersonii* (Bull.) Bailey & Hoff.}
persisting around houses

- 61
disease on *Ipomoea batatas*
fairly general here

- 62 *Ipomoea batatas*
persisting from cultivation

Palau

tufts, culms erect.

Various cultivated species
persisting here - *Hibiscus* hybrids,
Persea americana, etc. + those collected.

erect shrub with
tuberous elongate roots,
stem branched near
top, very knobby;
flowers greenish, fruit
immature.

erect single stem
2 m. tall, flowers
white.

wine forming patches,
flowers bright yellow,
reddish ^{tinged} without.

stems erect, leaves
dwarfed and distorted.

sterile.

1946 Caroline Is.

25763 Piper betle
edge of thicket on steep slope

64 Dryopteris
wet shaded place

65 ~~Phorranth~~
abundant everywhere

66 Uncaria kororensis
common in second growth
thickets

July 21 - ~~fast~~ west end
of Arakabesan Island
near seashore, cleared land

67 Calophyllum inophyllum

68 ^{common} Terminalia catappa
common

July 21 east slope near
causeway to Koror,
Arakabesan Island

69 Mussaenda frondosa
occasional in second
growth bush

25769a see next p.

Palau

vine climbing in trees,
leaves mildly acid to
taste; ripe spikes red.
rhizome short, erect;
fronds erect & ascending
great liana covering
trees; only a few shattered
dry fruits seen at this season.
(leaves often much larger)
scandent shrub,
clambering in bushes;
flowers greenish yellow
to dull reddish yellow.

tree 10 m. tall
young tree 3 m. tall (others
up to 15 m. tall), all
seen sterile.

shrub 3 m. tall,
enlarged calyx lobes
white, flowers bright
yellow, fruit immature.

1944 Caroline Is.

July 22 - B.O.G. Ngarmid,
Koror

planted around old Temple grounds

25770

Leianthes

71

Eugenia Decaspermum fruticosum Forst.

72

M

July 21 - e. end Arakabesan I.

25769a

Jatropha gossypifolia
roadside in rather low
ground, common but only seen here.

tree 10 m. tall.

small tree, slender, 4 m. tall,
flowers white with
rose stamens.spreading tree 8 m. tall,
fls. dull lavender."old grass" leaves
used for making string.bush 1.5 m. tall, leaves
and young growth purplish,
glandular hairs green;
flowers red; fruit immature

July 23-24 — Ngeanges
Island (Gaiangas I.), in Yoo
Passage just west of point of Umkethapel I.
sandy flat covered by dense
low bushy second growth forest

25772 *Alocasia*

persisting in sandy
flats

73 *Carica papaya*

weed common on flats and
on raised limestone

74 *Crataeva speciosa*

persisting on sandy flat

75 *Ipomoea gracilis*

rare on sand flat in openings
near shore

76 *Vigna marina*

very common along
shore

77 *Terminalia*

common along beaches

78 *Lophora tomentosa*

common along leeward beach

Island composed of two
limestone pyramids about
~~to~~ 40m. high connected by a
strip of coral sand.

"pise" root eaten, petiole
will irritate skin if
crushed and rubbed on.

erect stem 3 m. tall

flowers cream white

small sterile tree 2 m. tall,
rank odor when broken;

"adepsun" fruit cooked and
eaten.

vine, flowers bright
purple, "toro" leaves eaten.

vine, extensively
creeping, climbing
in low bushes, ~~the~~

"keldel" used
medicinally.

small bush, but
reaching small tree size.

"esemi" used medicinally.

"dudurs" used medicinally.

bush 2 m. tall,
flowers yellow.

25779 *Barringtonia*
only one plant seen

80
only one small seedling seen.

81 *Caesalpinia Gonduc* (L.) Roxb.
rare in bush

82 *Hernandia*
common on beaches

83 *Calophyllum inophyllum*
common

84 *Eugenia*
common

small seedling; "bdul"
~~used by~~ leaves eaten
by women during
childbirth. Not used
as fish poison here, but
said to be in Babeldaob
and Koror.

"gisaks" used by women
in childbirth.

"toduliks" or "sers megamad"
"not used".

sterile plant only seen.
large tree, flowers
white, fruiting perigons
inflated turning red-
purple. "dago" used
medicinally by
women during childbirth.

~~bdaks~~ "btaes" used
for medicine. wood
used to make canoes.

large tree.
large tree "rebotil"
fruit eaten. leaves
used medicinally.
fruit white or red size
of small apple. flowers
greenish-white.

25735 *Ternstroemia*
rare on trunks of trees

86 *Guttarda speciosa*
rare in forest

87 *Scaevola frutescens*
common along beaches

88 *Cassytha filiformis*
common, parasitic
on grasses and other things.

89 *Messerschmidia argentea*
common along beaches

90 *Nephrolepis*
very abundant in undergrowth

91 *Macaranga*
uncommon in bush

92 *Premna blusafolia* B. Br. (lower level)
uncommon in bush

93 *Canavalia cathartica* Thunberg
common everywhere

roots green, closely flattened
to bark; flowers white,
spikes pendent
"belad" not used.
tree 6 m. tall, flowers
white.

"gorai" used medicinally
for stomach trouble.
flowers white with
purple markings. bush 1
m. tall, rounded.

leafless green or yellow
vine, flowers white,
fruit green. "telelaull"

small tree, leaves
fleshy silvery green.

~~"Adiris"~~ "viss"

"terotel" erect from
short erect rhizome.
shrub 3 m. tall.

"bdel" ^{leaves} used medicinally
for dysentery.

"osm" used medicinally
shrub 3 m. tall, flowers
pale green, aromatic.

vine extensively
climbing in trees

"beldelel" flowers
bright purple.

25794 *Ficus scottiana* Worb.
in small opening, rare.

♀ (95) *Pipturus argenteus*
♂ (96) common everywhere

97 *Pisonia grandis*
occasional in forest

98 *Colubrina asiatica*
common forming tangles
everywhere

99 *Triumfetta procumbens*
common on sand at top
of beaches

25800 *Terminalia catappa*
occasional.

01 *Piper*

02 *Polyscias grandifolia* Volk.
common in forest

03 *Artocarpus altilis*
several large trees in
brushy woods

shrub 3 m. tall, cauliflorous
fruits purple when ripe
sweetish "woa" fruit
eaten.

"olulgrasus" bark
used for making string.
shrubs 1-3 m. tall,
fruit white, fleshy.
shattered tree, 10 m. tall,
trunk 1 m. thick half
rotten. flowers whitish
fragrant. "mesobese"

"drikel" semi-scandent
shrub, flowers yellow.
prostrate, flowers yellow.

~~"Arik"~~ "mia" leaves
used medicinally, fruits
eaten. large sterile tree.

"ksebebi" vine
creeping on ground and
climbing on tree trunks.

unbranched shrub
3 m. tall, panicle terminal
of 2 pseudo-whorls of
panicles. ~~the~~ "bngai"
~~the~~ "medu" fruit
eaten.

25804

rare in forest

05 *Ochrosia oppositifolia*06 *Ficus*

scattered in forest

07 *Eragrostis ~~altissima~~ amabilis*

one patch seen in clearing

08 *Euphorbia hirta*

one patch seen in clearing

09 *Paspalum conjugatum*
clearings10 *Eleusine indica*

only one plant seen in clearing

11 *Ipomoea alba* L.

common along beaches

12 *Wedelia biflora*common along sandy
leeward beach13 *Cucurbita pepo*occasional, persisting from
cultivation14 *Thuarea involuta*

common on sand

"Élido" large tree,
one fruit seen.*"wari"* tree 6 m. tall,
flowers white, fruit
terete.*"lulq"* large tree, banyan
type, sterile.stems erect, arching at
tips.vine climbing over trees,
flowers white, opening
in afternoon, closing in
morning.

prostrate; flowers yellow.

prostrate vine, flower
orange; no fruit seen
leaves with gray spots.prostrate, forming a
mat, flowering branches
erect.

- 25815 ~~Ficus~~ *Ficus microcarpa* var. *latifolia*
occasional
- 16 *Cyclophorus*
common on tree trunks
- 17 *Schefflera odorata* (Blanco) Merr. & Rolfe
occasional in trees,
probably epiphytic
- 18 *Lepturus repens*
common in open
- 19 *Ficus tinctoria*
occasional
- 20 *Cordia subcordata*
common
- 21 *Ficus microcarpa* var. *latifolia*
occasional (possibly same as #25815)
- 22 *Randia cochinchinensis*
common in forest
- 23 *Smilax*
rare in forest

- sprawling tree, ripe
fruits dull rose-purple.
fronds leathery-fleshy
- vine, climbing,
sharp oily odor when
broken, flowers greenish
white.
- creeping, rooting at
nodes, not especially
tufted, forming mats.
- shrub growing
on trunks of another tree;
ripe fruit dull green.
- tree 10 m. tall, flowers
bright deep orange.
- large tree, branches
spreading very low,
fruits ~~off~~ greenish
yellow, probably very immature.
- slender tree 6 m. tall,
ripe fruit red. "ti"
- vine climbing in trees,
all seen sterile. ~~rhizome~~
a hard thick irregularly
branching tuber-like affair.
reddish within, without
distinctive odor.

1946 Caroline Is.

25324 *Clerodendron*^{um}
common in undergrowth

25
common around beaches

26 *Achyranthes aspera*
top of beach, in sun.

27 *Achyranthes aspera*
in forest, shaded

28
common in forest

29 *Pteris*
occasional in forest on
sand and rock

30 *Euphorbia* *chamissoi* Boiss.
common in openings at
top of beach

31 *Tacca leontopodioides*^{et al}
scattered, especially
in openings.

Palau

shrub up to 2 m. tall,
flowers scarlet.
— said to be used medicinally.
vine climbing into
small trees; flowers
green; fruit black and
glossy when ripe, compressed
— from top, subglobose.
— low bushy herb.

herb 1.5 m. tall.

shrub 2-3 m. tall,
flowers pendent petals
dull greenish ^{reddish} yellow
changing basally to deep
maroon. appendages
at base maroon,
rhizome erect, about 2 dm.
high, fronds ascending

stems ascending; leaves
white beneath; flowers
greenish.

— herbs 1 m. tall (others
2 m.), bracts blackish.

July 23-24 - same,
raised dissected limestone
or "makatea"

25832

occasional just above
sea on cliffs

33 *Bikkia*

very common on cliffs
above sea

34 *Pithecellobium*

occasional on cliffs above sea

35 *Hedyotis abrid-punctata*
common in slight cavities
and crevices on limestone
cliffs just above sea

36 *Premna obtusifolia* P. B. (p. 100) (p. 100)
cliffs just above sea, rare

37 *Capparis*

cliffs just above sea, common.

38 *Casuarina equisetifolia*

on cliffs just above sea

plants mostly collected
on base of cliffs just
above sea.

pendent shrub

shrub 1-2 m. tall,
very uniform in leaf
form, flowers white,
scarcely fragrant.

shrub, ripe pods
red inside, seed exerted
after dehiscence, hanging
by funiculus.

leaves fleshy, flowers
white, corolla tube swollen,
lobe patent, elliptic.

shrub 2 m. tall,
scarcely aromatic;
flowers green, one lobe
white.

shrub 1 ^{leaves} 5 m. tall, slightly
glaucous, slightly fleshy,
flowers are open at 9.00 a.m.
fruit hexagonal in
cross section.

small tree 4 m. tall

- 25839 *Asplenium*
rare on rocks in shade
- 40 *Asplenium nidus*
common on rocks in shade
- 41 *Procris pedunculata*
occasional on rocks in shade
- 42 *Asplenium*
common on rocks in shade
- 43 *Peperomia*
common on rocks in shade
- 44 *Tectaria*
on rocks in shade
- 45 *Cyrtomium*
rocks in shade
- 46 *Hoya*
rocks in sun,
- 47 *Alyxia*
common on rock cliffs
overhanging sea
- 48 *Davallia solida*
common on rocks overhanging
sea
- 49 *Morinda citrifolia* L.
common generally, this
from rocks above sea
- 50 *Pongamia pinnata* (L.) Merr.
rocks above sea

15-25 m.
↓

large rosette

fleshy

2 m.

rhizome short, erect;
fronds erect.
blades coriaceous

3-4 m.

↓

vine climbing over rocks
and bushes, flowers a dull
yellow very finely and
closely punctate with maroon.
semi-scandent shrub;
flowers dull salmon; ripe
fruit blue-black.
rhizome creeping

shrub 2 m. tall; flowers
white, fruit unusually
narrow.

shrub ~~2 m.~~ 1 m. tall,
fruit green. racemes appearing
secund, probably from weight of fruit.

1946

Caroline Is.

25851 *Polypodium scolopendrium*
common generally, this
one from rocks overhanging sea

52 *Gymnosporium*
~~rare~~ occasionally on
rocks above sea

53 *Randia cochinchinensis*
rocks above sea

54 *Pongamia pinnata*
rocks above sea

55
rocks cliff ^{just} above sea

56 *Eugenia*
common on rock cliffs above sea

57 *Allophylus*
common on rock cliffs above sea

58 *Allophylus*
common on rock cliffs above sea

59 *Wikstroemia elliptica* Merr.
occasional on rock cliffs above sea

Palau

rhizome creeping

weak shrub, fruit
immature

shrub 1 m. long;
ripe fruit red.

tree projecting over sea

shrub

shrub, mostly sterile

shrub, flowers white

shrub, fruit yellow
(perhaps not quite mature)

shrub, flowers green
(plant much galled)

1946

Caroline Is.

July 23 - middle of northeast coast of Magaiad (north arm of Urukthapel I.), southwest shore of Malakal Harbor, Palau Is.

B

steep dissected limestone or "makatea", heavily forested.

25860

Bibbia

rock cliff just above sea

61

Psychotria

top of ridge

62

Asplenium

rocky slope, deep shade

63

Elatostemma

common on steep rocky slope

64

Ophioniza

just above water, steep rocks

65

Hedyotis albidopunctata

rock crevices just above sea

66

Asystasia

rock ledge just above sea

67

Callicarpa

steep rock slope just above sea

68

Asplenium

steep rock slope

69

Peperomia kraemerii C. DC.

69a

Peperomia palauensis C. DC.

rock crevices and ledges just above sea

2 m. shrub, flowers white
"mur"

20 m. slender tree 4 m. tall,
flowers white. "stertil"

20 m.

10 m. fleshy, leaves paler beneath.
"deurs"

1 m. low shrub

1 m. prostrate; leaves fleshy,
flowers white.

2 m.

plant prostrate with
ascending branches,
flowers white.

1 m.

shrub 2 m. long, hanging
almost into water;
flowers white.

5 m.

1 m. fleshy

1946 Caroline Is.

- 25870 *Procris pedunculata*
steep rock slope, shade
- 71 *Allophyllus*
steep rock slope, just
above sea

Palau

On the west side of Babeldaob between Armonogui and Bokumgeru Pt. the slopes are steep and rugged. With the exception of a small coconut plantation at Madarabae, there is little evidence of disturbance visible from the sea. The slopes are well wooded with what may well be primary forest. A good patch of this also exists on the north slope of Airakabesan.

The southwest coast of Babeldaob seems to have been largely cleared and burned over, as has the central area about Garumiscan Colony. There were, at the latter place, small patches of

Palau

- 2 m. fleshy; fruiting heads
white.
- 1 m. shrub; flowers white;
fruit red when ripe.
"ebeludes" used medicinally
for eyes.

pineapples which, together, must have aggregated a good many acres, as the remains of a fair sized cannery are at the head of navigation on the river. Both Smooth Cayenne and Fiji (Wild Kailua) type pineapples are present, the former more abundant. The patches have been somewhat neglected and, though the fruit is still harvested, and the patches are not too weedy, the fruit now averages very small, perhaps 4-6 inches long. The Fiji type has stood up better, averaging perhaps 2 inches longer, and is here more juicy

1946

Caroline Is.

and better flavoured than I have ever seen it.

Much *Manihot* also still persists here. It was evidently one of the principal crops planted by the Japanese. Sweet potatoes, ^{headfruit} *Cassipoua quadrangularis*, papayas, a few avocados, ^{bananas} and a few other food plants still persist, as well as such ornamentals as a hybrid *Hibiscus*, an *Antirrhinum*, and *Allamanda cathartica* var. *hendersonii*.

The low flat portion of the valley, where it is not wooded, is densely covered by a mat up to 1 m. deep of *Paspalum conjugatum* and 2 sp. of *Ischaemum*, with a little *Paspalum orbiculare* (?). This conceals various holes, wells, etc. and is marked by large bomb craters.

A few people live here in old Japanese houses. Their food consists of the plants mentioned above.

Palau.

They have no livestock of any kind, not even dogs and chickens. It is said that the Japanese even ate the wild monkeys that were found on Babeldaob. I saw none.

Koror has been thoroughly altered. The flora there now is almost entirely introduced. In fact, the island is more or less of a botanical garden. Nothing is apparently left of the Palau Tropical ~~Bot~~ Biological Station. Koror would be worth a good exploration as a source of tropical fruit and ornamental trees. There was no chance to get even a slight idea of what was there.

Arakabesan is similarly disturbed on the side toward Koror, though on the higher slopes are secondary thickets of native vegetation. On the west side is the old seaplane base, very weedy, and above it on the slopes is broken secondary vegetation and evidences of former cultivation.

The raised coral islands to the south remain virtually unexplored. The steep slopes are covered by a dense forest in which can be discerned *Dracaena*, one or more species of *Pandanus* (the natives are said to use the *pandanus* leaves from these islands for weaving), *Psychotria*, and many trees that were not identifiable from a distance. *Ipomoea alba*(?) is festooned over the forest in many places. This forest, in the one place it was penetrated, is fairly free of undergrowth, except for a few ferns, but where disturbed, as on ~~the~~ Ngeanger where it has been bombed, it is almost impenetrable. The lower edges just above the water have many species of shrubs (see colls. from Unkthapel and ~~the~~ Ngeanger) hanging over the cliffs. Here ^{on the cliffs} the sunlight is more abundant. In the forest on the slopes these shrubs are

shaded out.

On the south shore of Malekal Harbor where I landed is a curious phenomenon. I climbed over a ridge and in what looks like a sink hole, with no apparent connection with the sea is a tiny mangrove swamp. The trees appeared to be a sterile *Bruguiera*, but I had no time to investigate. It should be looked into again.

On the higher ridges a *Ptychosperma* or similar palm is abundant. It may be seen outlined against the sky.

July 25 - west side of Pelelin I.
weedy lowlands with
marshy places and
cultivated patches

25872 *Ipomoea reptans*
common in cultivated
low place

73 *Colocasia esculenta*
cultivated or persisting
from cultivation in
desiccating marsh

74 *Cyrtosperma*
abundant, cultivated
or persisting from cultivation
in desiccating marsh

75 *Pipturus argenteus*
very abundant, weedy

76 *Zypharium xanthosoma*
cultivated in friable
sandy coral soil

77 *Alocasia macrorhiza*
roadside, occasional

sterile

sterile; petioles erect,
blades pendent, surface
dull. ~~setae~~

~~leaf~~ sterile, leaves
erect, shiny.

shrub 1 - 2 m. tall
said to be good pig feed.
sterile; leaves glaucous
green, distinct angle
between petiole and
blade.

leaves erect, glossy, green;
flowering spadices from
between 2 basal bracts,
spadix with appendage
orange, staminate flowers
white; spathe with
base green, free part
erect, bronze-purple.

July 26 - central part of
Angaur I.

sterile coral, surface ^{mostly}
removed by bulldozers,
scattered trees remaining

25378 *Ipomoea*
everywhere

79 *Eugenia*
common in woods
and around houses

80 *Planchonella*
common in woods,
one of characteristic trees

81 *Euphorbia heterophylla*
common along roadsides

82 *Canna edulis*
patches along roadsides

83 *Stachytarpheta*
abundant locally

84 *Amaranthus spinosus*
occasional

85 *Terminalia catappa*
occasional

86 *Acrostichum aureum*
abundant in marsh
(probably an old phosphate
excavation)

great vine climbing
over trees, no flowers
or fruit this season.

tree 7 m. tall, trunk
smooth, bronze green,
flowers whitish, rare.
tree 7 m tall, sterile.

bracts red ~~at~~ ⁱⁿ basal
portion.

erect herb 1 m. tall,
flowers scarlet.

herb 1.5 m. tall, leaves
bullate, rugose, flowers
deep blue-purple.
stems red.

small tree 3 m. tall (others
much larger), sterile
(all seen sterile).

clump 1 m. tall.

- 25387 *Polygonum*
abundant weed in
Cyrtosperma patch
- 88 *Dryopteris gongilodur*
weed in *Cyrtosperma*
patch, very abundant
- 89 *Columella trifolia*
edge of *Cyrtosperma*
patch
- 90
drying mud puddle
- 91 *Ipomoea reptans* ~~aquatica~~
weed in *Cyrtosperma*
patch, common
- 92 *Cyperus striptus* ~~javanicus~~ *Hortl.*
common generally. This
at edge of *Cyrtosperma* patch
- 93 *Premna obtusifolia* *H. B. K.* (obtusifolia)
occasional along roadside
in low bush
- 94 *Thunarea involuta*
common on flat sandy places

same - inside of
depression in hill on
northwest corner of

prostrate, forming a
dense tangled mat; flowers
white.
rhizome prostrate,
buried.

vine, climbing on
bushes; flowers green;
fruit immature
flowers bright lavender
with yellowish-white
tubes and 2 bright
yellow ridges on palate.
stems prostrate
with ascending tips,
fistulose; sterile.
caespitose

shrub 1 m. tall; flowers
green, aromatic; fruit
black when ripe, ripening
unevenly.

prostrate, forming
a thin mat.

island.

bushy secondary vegetation
with ledges and occasional
steep ravine sides.

- 25895 *Ficus*
occasional
- 96 *Morinda citrifolia* L.
common, edge of ravine
- 97 *Mussaenda frondosa*
occasional
- 98
occasional in ravine
- 99 *Polyscias*
common locally
- 25900 *Dryopteris*
common on steep ravine side
- 01 *Lygodium acuminatum*
occasional.
- 02 *Mussaenda frondosa*
occasional
- 03 *Dryopteris*
~~acuminata~~ at base of
vertical bank on coral
- 04 *Passiflora foetida* L.
common everywhere

- broken tree (some seen
quite large); ripe fruit
reddish yellow, rare.
- shrub 2.5 m. tall;
flowers white
- shrub 2 m. tall;
~~the~~ enlarged calyx lobe
white; flowers bright
deep yellow.
- shrub 3 m. tall,
fruit immature.
- shrub 3 m. tall; flowers
and panicle red; fruit
immature.
- fronds vine-like, climbing
on ~~the~~ bushes, distal
pinnae fertile.
- shrub 2 m. tall,
enlarged calyx lobe
white, fruit immature,
slightly obovoid.
- under side of frond green.
- vine climbing over
shrubs.

1946 Caroline Is.
mucronata Desv.

- 25905 *Crotalaria saltiana*
 occasional along road
- 06 *Pleechum pyramidatum*
 occasional
- 07 *Ipomoea batatas*
 rare along roadside
 persisting from cultivation
- 08 *Erigeron*
 rare along roadside
- 09 *Carica papaya*
 common weed everywhere
- 10 *Peperomia*
 open place where
 coral gravel has been dug away
- 11 *Synedrella nodiflora*
 roadside
- 12 *Centella asiatica*
 open place where
 coral gravel has been
 excavated; common
- 13 *Urena lobata*
 occasional along roadside
- 14 *Sida acuta*
 common locally along roadside

Palau

- herb 1.5 m. tall; flowers
 yellow, banner striate
 with maroon.
- prostrate with
 ascending branches.
- prostrate, sterile;
 leaves veined with
 purple.
- aromatic
- erect stem with
 rosette of leaves
 (mostly much larger
 than this specimen);
 flowers cream white.
- fleshy, pale green,
 translucent, leaves
 rather thin.
- flowers yellow
- ~~erect~~ prostrate
- herb 1 m. tall; leaves
 gray beneath; flowers
 purplish pink.
- herb 1 m. tall, flowers
 yellow

same - northwest coast
of island. raised, very
rough dissected coral,
forest above strand has
been almost completely

25915

Fimbristylis

open roadside above sea

16

Fleurya ruderalis (Font.) Gand. ex Wedd.

open coral above sea

17

Wedelia biflora var. *canescens*

common on coral bluffs

above sea

18

Callicarpa

common on coral bluffs

19

Pemphis acidula Font.

common on coral bluffs

20

Capparis

common on coral bluffs

21

Hedyotis albidopunctata

common on coral bluffs

22

Lepturus repens

common on open coral bluffs

destroyed by bombing
and shelling during war,
skeletons of trees standing,
some partially alive.

tufts

stems fleshy, red.

prostrate, gray-green,
flowers yellow.

dense bush 1 m. tall;

flowers bright purple;

fruit deep purple-black.

semi-prostrate shrub,

leaves fleshy, rather

astringent to taste.

semi-prostrate shrub,

~~fl~~ leaves sub-fleshy,

blue-green; flowers

white, starting to

collapse just before

noon on a cloudy day.

prostrate, fleshy,

forming mats; flowers

white, lobes elliptic,

spreading, tube swollen.

prostrate, forming

loose mats.

- 25923 *Asplenium*
semi-shaded rocks
- 24 *Cyperus*
wet place beside road
- 25 *Barringtonia asiatica*
common tree in forest
- 26 *Asystasia*
edge of secondary
woods on ridge top
- 27 *Pipturus argenteus*
dominant shrub in
secondary forest over
whole island, this
on top of highest ridge
- 28 *Triumfetta procumbens*
common on coral bluffs
above sea
- 29 *Casuarina equisetifolia*
common tree on bluffs
above sea.
- 30 *Fimbristylis*
common on coral bluffs
above sea
- 31 *Portulaca oleracea*
roadside
- 32 *Messerschmidia argentea*
common along coral bluffs

tufts

tree 10 m. tall, very
sparsely leafy, fruits
on ground beneath tree.
erect herb 1 m. tall,
flowers lavender.

shrub 2 m. tall
fruit white, fleshy.

prostrate, ~~fls~~ extensive;
flowers yellow.

large tree 12 m. tall,
badly damaged; all
seen sterile.

tufts

plant prostrate,
fleshy, purplish green.
shrub 1.5 m. tall,
leaves fleshy, silvery green,
the flowers white.

- 25933 *Achyranthes aspera*
roadside
- 34 *Clerodendron*
bluffs above sea
- 35 *Guetarda speciosa*
common on makatea
above sea.
- 36 *Pisonia grandis*
common on bluffs
above sea
- 37 *Macaranga*
one of dominant small
trees or shrubs in secondary
forest.
- 38 *Colubrina asiatica*
common in secondary forest
- ~~39~~
same - dense wet forest
on ridge of rough dissected
coral, n. w. corner of island
- 39 climbing tree
- 40 *Elatostemma*
common under trees
- 41 *Asplenium nidus*
common on rocks under trees

- leaves somewhat fleshy
stamens purple.
- semi-prostrate shrub,
extensive. flowers
white, stamens deep
purple.
- badly shattered tree,
flowers white.
- large more or less
shattered tree;
flowers
shrub 2 m. tall.
- semi-scandent shrub,
flowers yellow.
- vine, clinging ^{loosely} to tree
trunks. spathe yellow
ochre color.
- herb with fleshy
stem up to 1 m. high.
rosette of ascending
fronds.

- 25942 *Clerodendron*
common in forest
- 43 *Polypodium*
epiphytic on tree trunks
- 44 *Procris pedunculata*
common in shade on rocks
- 45 *Ficus prolixa*
common in forest
- 46 *Randia cochinchinensis*
common in forest
- 47 *Asplenium*
common on rocks
- 48 *Piper*
common in forest
- 49 *Schefflera obovata* (Blanco) Merr. & Rolfe
common in forest

same - e. side of island
in rather shot-to-pieces
strip of woods on
bare rather rough coral

- shrub 1-2 m. tall;
flowers scarlet; fruiting
calyx red.
flattened rosette
- ascending shrub,
m. tall, heads
white, fleshy.
- large banyan-type
tree. figs green, only one seen.
tree 3 m. tall, flower
buds white; fruits
turning red at maturity.
- vine, climbing on
trees, leaves on sterile
parts peltate, on
flowering branches not
peltate.
- vine, strong oily odor
when broken; flowers
white; ripe fruit
orange.

Eugenia sp. is the
most prominent tree.
Cyrtosperma in low
spots.

- 25950 *Phypalis*
roadside
- 51 *Pteris*
roadside, common
- 52 *Cyrtosperma* ^{markusii (Hassk.) Schott}
^{det. D.H. Nicolson 6/1998}
low place in woods
common.
- 53 *Nephrolepis*
common in woods
on rock and logs
- 54 *Tectaria*
common in woods
- 55 *Portulaca quadrifida*
common locally along
roadside in sand
- 56 *Amaranthus spinosus*
occasional along roadside
- 57 *Digitaria timorensis*
rare in trail in woods
- 58 *Pteris*
common generally, mostly
in woods.
- 59 *Paspalum conjugatum*
common everywhere,
this from trail in woods
- 60 *Eugenia*
dominant tree in woods
- 61 *Barringtonia racemosa*
common in low ^{wet} woods

- flowers pale yellow
- rhizome and fronds erect.
- sterile, some leaves
up to 1 m. tall, petioles
scarcely prickly.
erect
- rhizome short, erect
- prostrate, fleshy;
leaves somewhat compressed,
flowers yellow.
- forming loose mat.
- rhizome erect, (other
plants up to 1 m. tall)
- rooting at nodes.
- large tree, all seen
sterile
- small tree 4 m. tall,
racemes pendent, immature
fruit distinctly 4-sided.

25962 *Antrophyum*

rare on tree trunks

63 *Ophioglossum pendulum*

rare on tree trunks

64 *Derris* ~~alt~~ *trifoliata*

common in forest

~~65 *Abutilon*~~~~erect~~

same - north end
of island - low weedy
coral that has
had top-soil removed

~~65 *Abutilon*~~~~erect, dominant shrub in brush~~65 *Hibiscus*

occasional in weedy place

66 *Emilia sonchifolia*

common along road

67 *Hedyotis corymbosa*

common along road

68 *Chloris inflata*

common along road

69 *Euphorbia*

common in open ground

70 *Eragrostis*

rare, one tuft seen along roadside

fronds arching, then pendent

sterile vine.

open patches and
patches of second-growth
brush.

shrubby or py. tall,
stems upright, flowers
yellow with marked
base.

herb or suffrutescent
herb 1 m. tall, flowers
bright yellow.

flowers purple.

flowers pale lavender

tufts, decumbent at base,
then erect.

prostrate

25971 *Borreria*

rare here in weeds

72 *Canavallia*

common in brush

73 *Euphorbia hirta* L.

common along road

74 *Abutilon* ~~abundant~~

one of dominant shrubs

75 *Jussiaea*

abundant locally around pools.

76 *Phyllanthus**amarus* Schum. & Th.

det.

common in open places

77 *Echinochloa colomum*

local in desiccating pools along road.

78 *Cyperus*

local in pool along road

same - east side of island, roadside

79 *Borreria*

large patch along road

80 *Cenchrus echinatus*

common along road

81 *Sesuvium cinereum*

occasional generally in open

flowers white

extensive vine; flowers
bright magenta.
stems archingshrub 2 m. tall, stems
bispid, flowers greenish
yellow, narrow at base.
stem leaves lobed,
branch leaves ovate.suffrutescent herb
1-1.5 m. tall, flowers
yellow, petals about
1 cm. long.

G. L. Webster, 1955

small spreading tufts.

tufts

erect, flowers white.

large masses

flowers purple

1946

Caroline Is.

Angaur Island is a rather small platform of raised coral with a low hill occupying the north west corner.

There is a shallow depression in the top of this hill with a pond in it, which is apparently an old phosphate mine. It is not certain whether the entire depression is the result of phosphate mining but it may well be.

Phosphate rock is irregularly distributed over the island in large or small pockets.

I see no significant effect of the phosphate on the vegetation.

A large part of the island has been so scraped over by bulldozers that it is scarcely possible to discern what the original vegetation may have

Palau

been, but likely it was largely forest. Remnants of this still exist along the east, southeast and north-west coasts. Scattered trees remain inland where the bulldozers missed them, or where they were spared as camp ornaments.

A considerable area of low ground forms a large *Cyrtosperma* swamp, just in from the east coast. It was doubtless cultivated before the war, but is very weedy now.

Around the village are patches of sweet potatoes and tapioca. Breadfruit trees are relatively rare, ~~but~~ ~~quite~~ and there are not many coconuts.

The forest in most places is tattered and torn by shell fire

and bombing during the war. Many trees are just skeletons or half dead.

The composition varies along the east coast it is mixed out with *Eugenia* sp.

25960 predominant, and some *Ficus*. The *Eugenia* is also prominent elsewhere, but with another *Eugenia* 25879 and what appears to be *Planchonella* 25880. On the northwest coast *Pandanus*

2 sp. (*tectorius* & *fragrans*?) ^{*merensschmidii*, *Pisonia*, *Barringtonia*}, *Casuarina*, and *Guettarda* become important. In the thicker part of this, on rough coral, *Piper* is common, climbing over everything. *Randia cochinchinensis* is common here.

Just inside of the hill are various small ponds which may well be the result of phosphate

mining. They support a good stand of clumps of *Acrostichum aureum* and little else.

The outstanding thing about the vegetation at present is the rank growth of a bush of *Pipturus argenteus*, ^{*with some morinda*}, *Thacaranga*, ^{*canica*} ~~*canica*~~ *Abutilon* (25974), and the great areas covered by *Ipomoea* sp. (25873) with some *Canavalia*, and in places near the coast, *Wedelia*. This is an incanous form. These plants thrive even on what appears to be coral scraped entirely bare.

(Weeds are abundant along the roadside, and in openings.)

This stand has evidently come in since the war and completely dominates the island now.

1946 - Caroline Is.

July 27 - Peleliu Island,
S.W. coastsecondary vegetation of
Pipturus, *Ipomoea*, etc. a
bush 2-3 m. tall, very
dense.25982 ~~*Ipomoea*~~ *Opeculina turpethum* (L.) Mauss
very abundant, covering
large areas of secondary
vegetation83 *Melochia*
rare in brushJuly 27 - rough coral
back of north end of
beach on east side of
island, "Purple Beach", Peleliu.
dense mixed forest84 *Premna*
edge of forest85 *Fleurya ruderalis*
roadside86 *Psychotria*
sparse undergrowth in
dense forest87
rare in dense forest~~Palau~~ Palauextensive vine, sterile at
this season.bush 1.5 m. tall;
flowers pink.shrub 2 m. tall,
flowers green,
stems reddish, fleshy.shrub 1 m. tall; fruit
immature.tree 15 m. tall with a
straight trunk 7 m. to
lowest branch, branching
aerial root at 3 m. height,
scars of others on trunk; sterile.

- 25938 *Randia cochinchinensis* Lour.
occasional in forest
- 89 *Leea*
common around edges
of forest
- 90
occasional in forest
- 91 *Diospyros ferrea*
rare in forest
- 92 *Eugenia*
one of commonest trees in
forest.
- 93
one of common trees in forest
- 94 *Canavalia* ^{*cathartica* Thunberg} *microcarpa*
~~vine climbing over~~
common around edges
of forest
- 95 *Thuarea involuta*
common in openings
and along roadsides
- 96 ~~*Bougainvillea*~~ *Ceriops tagal* (Pers.) C.B. Rob.
common in mangrove swamp
- 97 *Davallia solida*
common epiphyte
on tree trunks

- tree 5 m. tall, buds
white, ripe fruit red.
- vine climbing in trees,
flowers green; ripe fruit
black, subglobose.
- tree 5 m. tall, (others
larger), fruit green.
- small tree 4 m. tall,
fruit bright orange,
flesh very firm.
- small tree, fruit green.
- small tree 5 m. tall,
(others much larger)
flowers white.
- vine climbing over
trees, flowers magenta.
- forming thick mat.
- tree 4 m. tall, with
white flowers. knee-like
pneumatophores.

25998

Colubuna asiatica

common in thickets at
edge of ~~swamp~~ mangrove
swamp

99

Clodendron

common in thickets at
edge of mangrove swamp

26000

Elatostemma

common on rough coral
in shade

01

Polyscias grandifolia Volk.

one plant seen, in forest
on rough coral

02

Fimbristylis

common on rough coral
just seaward of forest

03

Hedyotis albido-punctata

common on rough coral
just seaward of forest

04

Capparis cordifolia Lam.

rough coral just seaward
of forest

05

Meryta seufftiana Volk.

small shrub,
flowers yellow,
fruit immature.

scandent shrub,
flowers white,
pinkish without,
stamens ^{deep} crimson.
stem fleshy

erect, unbranched,
1.5 m. tall, panicles
in 3 terminal pseudo-
whorls; calyx and
ovary purple-green, corolla
light green. odor like
celery
tufts

prostrate, forming mats;
leaves fleshy; flowers
white, corolla lobes
elliptic-ovate.

upright ~~herb~~ suffrutescent
herbs; leaves glaucous;
flowers faded at 3 p.m.
tree

26006

*Callicarpa*common just seaward
of forest

87

*Acalypha*common on seaward
edge of forest and along
road in forest

88

Iporroea alba L.common at seaward
edge of forest

89

*Tacca leontopodioides*common in seaward
edge of forest, spontaneous

10

*Pemphis acidula*common just seaward
of forest

11

Iporroea per-caprae (L.)

common on beach

Peleliu is a somewhat
raised atoll with an
abrupt ridge of coral
limestone domes along
the west side. (Bloody Nose
Ridge). The central

shrub 1 m. tall;
flowers bright purple, ripe
fruit purple-black.

shrub 2 m. tall,
stigmas greenish,
~~the~~ pistillate spikes
erect, staminate drooping.

wine climbing
extensively; flowers
white, fruiting calyx
fleshy until it dries
and opens.

herb 1-1.5 m. tall.

shrubs and trees
up to 5 m. tall; leaves
sub-fleshy, saline-astringent
when chewed; flowers white.

prostrate, extensive;
flowers purple with
red center.

portion is low and
occupied by mangrove
swamps, with an
entrance at the northeast
corner. To the north,
connected by sand

1946

Caroline Is.

flats of considerable extent, awash at high tide, lies

At the south end are flats of considerable extent several meters above the sea. These are occupied by air strips and military establishments. Here the dominant plant everywhere among the buildings is *Eleusine indica*.

To the west of Bloody Nose Ridge lie the native villages and ~~the~~ marshes where they raise *Cyrtosperma* and *Colocasia*. The patches are quite weedy. On the slightly higher ground *Alocasia* and *Typhonium* are cultivated. Also there is some *Mimihot*. Coconuts are very few excepting on the east side of the island. The waste spaces on the west side and general vicinity of Bloody Nose

Ridge, as well as most of the ridge itself are a dense growth of *Pipturus argenteus* with some *Macaranga glauca* tangled with *Ipomoea* (25982). What forest was on the ridge was totally destroyed in the war, when enormous quantities of jellied gasoline were dropped on the ridge. The steep slopes ^{tree trunks} are completely draped with *Ipomoea*.

The mangrove swamps are in rather decadent condition except on the east side, because of fires and war damage. It is said that there has been considerable phosphate mining on the island in former times.

and Hibiscus
tiliaceus
locally

(over)

Along the east coast, on a strip of rough coral and sand, raised several m., is a stand of mixed forest, interrupted by coconut plantings and in places rather poor because of the war, ~~bordering~~ ^{bordering} inward on the mangrove swamps but separated in most places by a road. This forest is so mixed that there are no dominant species. *Eugenia* (25992) is very common. Another *Eugenia* and one or two species of *Ficus*, *Blanchonella* (?), *Randia cochinchinensis*, are also common occasional. along the coast are enormous *Casuarina* trees with great buttresses at the base. Breadfruit is common.

The outer edge, at the north end, at least, is fringed by *Pemphis acidula*. *Ipomoea alba*, *Pecc* (?), and *Canavallia* are ~~also~~ very

conspicuous around the edges. Along the road in disturbed ground are tangles of *Pipturus*, *Macaranga*, *Premna*, and the above mentioned vines. Ferns are common but not conspicuous. The northern end, only, of this strip was studied briefly. The whole area would well repay an extended visit.

On the rough coral outside the forest *Capparis*, *Trimeristylis* and *Hedyotis albidopunctata* and *Callicarpa* sp. are found.

On the ~~sea~~ edge of the mangrove swamp are *Allophylus*, *Clerodendron* and *Colubrina*.

1946 Marianas Is.

low fore hills
 July 28 - ~~hill~~ above Piti,
 west coast of Guam
 open grassy slopes
 with scattered shrubs,
 volcanic soil. 60 m.

26012 *Dodonaea viscosa*
 rare

13 *Wikstroemia elliptica*
 occasional

14 *Myrtella benignigeniana* (Vahl.) Diels
 common

15 *Rynchospora*
 common locally

July 28 Piti, Guam
 grounds of former experiment
 station 3 m.

16 *Pterocarpus echinatus*
 several planted trees

July 28 - Cornianan Hill,
 Guam

17 *Cestrum diurnum*
 common in bushy weed
 patches

Guam

shrubs 1 m. tall (2 plants
 represented in specimens)
 fruits 2, rarely 3-merous,
 pale green drying straw color,
 not at all reddish or purplish.

shrub 1 m. tall; flowers
 green.

dense shrub 0.8 m. tall,
 flowers white.
 tufts.

spreading tree 6 m. tall
 with drooping branches
 with distichously
 arranged branchlets.

shrub 1 m. tall,
 flowers white.

1946 - Caroline Is.

July 31 - Muan Village,
Moen I.

old mango grove on
slope at foot of
mountain, said to be
oldest mango trees in
Truk, planted by early
American missionary named
Logan.

26013 *Mangifera indica*
~~large tree 20 m. tall~~

19 *Piper*
climbing on tree trunk

20 *Sorghum*
small patch, said to
have been planted by
Japanese.

21 *Canna*
probably persisting from
cultivation *Saccharum spontaneum*

22 ~~*Miscanthus japonicus*~~
large brake-like patches
and clumps on open
slopes.

Truk Is.

an enormous tree
of *Samanes saman*
and one of *Peltophorum*
inermis also here.

10 m.

large tree 20 m. tall,
flowers greenish bronze.
vine, with very
marked pleasant odor,
even when unbroken.
herbs 1-1.5 m. tall,
seed used as food by
Japanese.

herb 1.5 m. tall,
flowers yellow with
red spots.

grass 3 m. tall, only one
flower cluster seen

July 31 - Lapuk Peninsula
eastern point of Moen I.,
broken secondary growth
on lower slopes.

26023 *Derris elliptica*
common along road

24 *Hedychium coronarium*
in low grassy place, local
"tulul en won" "ginger"

25 *Tacca leontopodioides*
grassy slope with
thickets, common

26 *Cassia occidentalis*
common in open places

27 *Rynchospora*
in low place, marshy

28 *Derris elliptica* *trifoliata*
edge of mangrove swamp

29 *Ficus*
shrub on base of *Terminalia*
July 31 Tenia Village.
south shore of
Nomenuk Bay, east coast
of Moen I.
marshy low coastal
terrace bordered by mangrove

vine; leaves glaucous
beneath. "up" used
for poisoning fish.
herb 1 m. tall; flowers
white, upper segment
with a yellow patch
in center of base,
deliciously fragrant.
erect, acaulescent,
scape taller than
leaves, "mohumoh"
erect herb, 1 m. tall;
flowers yellow. "afanapan"
caespitose, stems
almost erect. "moier"
vine, extensively creeping,
sterile "unenipot".

swampy sterile. "au".

1. The first
 2. The second
 3. The third
 4. The fourth
 5. The fifth
 6. The sixth
 7. The seventh
 8. The eighth
 9. The ninth
 10. The tenth

26030 *Macaranga*

common on slopes

31 *Terminalia catappa*common on edge of
marsh32 *Zingiber*

local near houses

33 *Flagellaria indica*

in thicket

34 *Hibiscus tiliaceus*

common in thickets

July 31 Head of Nomenuh

Bay, e. coast Moen I.

near houses at base of cliffs

35 *Fryxelinium Kanthosoma*

cultivated

Truk Is

shrub "tup"

large spreading
tree 15 m. tall, fruit
fleshy, yellow, flesh
astringent, seed edible
"As".clumps from closely
branched rhizomes,
strongly aromatic
when broken, flowering
spikes ellipsoid-ovoid,
filled with an aromatic
clear mucilage which
is said to be used to
cure headaches and
to relieve extreme
heat. "~~Tukul Tukul~~
"Tukul Tukul".

vine sterile.

"nikosuk"

shrub flowers
yellow. "sinifu"leaves at angle with
petiole, blue green above, glaucous
beneath. sterile. "Oten Japen" ^{dom eaten} said to be int. by Jap.

1946 Caroline Is

20036. *Crataeva speciosa*
planted near house

37 Citrus
planted near house

38 *Ageratum conyzoides* L.
weed near house

39 *Dioscorea alata*
cultivated near house

40 *Abrus precatorius*
weed in thicket

41 *Ipomoea gracilis*?
weed in open

42 ~~Ficus~~
tree

July 31 - north of ^{side} Nomenuk
Bay, East coast of Moen?
Talus at base of columnar
basalt cliffs

42 Ficus

7 miles Is.

small tree 4 m. tall,
petals white, turning
yellow, stamens deep
purple; fruit pendent,
eaten uncooked when ripe
~~"afutelo" or "ofutelo"~~ "afutelo" or "afutelo"
tree 5 m. tall; fruit
round, green, pulp bitter
but juice used in drinks

aromatic herb, flowers
white. "opolopon"

sterile vine, extensive,
petioles red at base
and top. "ampul" or "ep"
tuber eaten.

climbing in trees
"totus".

sterile vine "rukamuk"
or "ruk"

large spreading tree,
figs green. "au" bark
used medicinally to prevent
"gaws" in children.

1946 Caroline Is.

26043

Dioscorea bulbifera

common in thickets

#9

July 31 - Tunnuk village,
south shore of Bon Bay,
east coast of Moen I.
edge of mangrove swamp

44

Thespesia populnea

Aug. 1 - slope of Mt.

Tonaachan, Moen I.

cleared ridge, mainly
vegetated with *Paspalum*
conjugatum, *Miscanthus*
japonicus, etc. *Indigofera*
villosa common; also

45

Scleria polycarpa Boeckl.~~the~~ open slope

46

*Dioscorea bulbifera*open slope, in clump
of *Scleria*

47

Scleria

open slope

48

*Fimbristylis*in open ~~at~~ deep grass

49

Cucurbit

open eroded soil, otherwise bare

Truk Is.

sterile vine climbing over
bushes, bearing aerial tubers.
"apueraka"

small tree 5 m. tall,
flowers yellow, turning
red. "pöni"

Sida acuta, *Paspalum*
orbiculare

This ridge shows traces of the
burned, eroded land flora of
the islands to the west, but very few
species.

100 m.

large clump.

vine, aerial tubers
purplish, warty.

dense clumps.

~~the~~ roots fleshy; leaves
plicate; flowers yellow.

1946 Caroline Is.

26050 *Fimbristylis*
open grassy slope.51 *Urena lobata**Saccharum spontaneum* L.52 ~~*Micranthus japonicus*~~
dominant in places,
forming brake-like patches53 *Piper*
climbing on trunk of
large *Artocarpus*

Aug. 1 top of Mt.

rocky knob with
ledges and a flat top54 *Ipomoea digitata* L.
common generally in
thickets55 *Cyperus*
common in crevices
and grassy places56 *Procris pedunculatus*
in shaded places on rocks57 *Cyperus*
in grassy places on top58 *Phyllanthus urinaria* L. det. G. L.
grassy ledges59 *Fimbristylis*
grassy ledges + rock crevices, rare

Truk Is.

ascending culms.

~~erect~~
erect herb; leaves
glaucous beneath, flowers
purplish pink.dense clumps, canes
up to 3 m. tall, midribs
of leaves white.vine, leaves with
acid taste.extensive vine; flowers
pink-purple, red
within throat.

tufts; spikelets green.

stems fleshy; leaves
distichous; flowers
in fleshy heads, scarce.
spikelets brownish

Webster, 1955

1946 ~~Papua New Guinea~~ Caroline Is.

Aug. 3 - Hare Islet

rather open Coconut-Breadfruit forest with relatively little undergrowth in most places, flat sandy soil with considerable humus.

26060. *Asplenium nidus* L.
common generally,
mostly terrestrial, in shade.61. *Achyranthes aspera*
common generally in
shade62. *Stenotaphrum ^{micranthum} subulatum*
abundant generally
under trees63. *Scaevola frutescens* (Mill.) Kr.
fringing forest on outer beach64. *Pipturus argenteus*
occasional65. *Guettarda speciosa*
very common along ^{outer} beach,
~~less~~ common in forest.[small plant coll. by Aug. 4.
Turner on Machiro I. in
depression, fls. lavender]rosette of ascending
fronds. "tirokoko"

herb 1 m. tall.

"tikengtutui"

prostrate,
forming a thick
mat (so like *Thunbergia*
in appearance as to
be deceptive when sterile)

"tikengasoi"

shrub up to 4 m. tall,
flowers white, ripe
fruit a white drupe.

"ti nau"

shrub 1 m. tall, ripe
fruiting heads white
"warengaw"tree 5 m. tall (others up
to 15 m. or more); flowers
white. "ti pua"
leaves "tirau pua"

26066 *Messerschmidia argentea*
common along outer beaches

67. *Allophyllus thomsonii*?
very rare

68. *Alocasia macrorhiza*
occasional, planted

69. *Cyrtosperma chamissonis* (Schott) Merr.
extensively planted
in deep excavations
full of mud.

70. *Artocarpus altilis*
common in forest

"tikun" = tree

"tuakun" = fruit

71. *Musa nana*
in mud at edge of Cyrtosperma patch in excavation

72. ~~73~~ *Colocasia esculenta*
scattered in *Cyrtosperma*
bed in mud-filled excavations

shrub 4 m. tall (others
larger); leaves fleshy,
silvery green, flowers
white "sokotokong" "kotohong"
~~sterile~~ sterile shrub 1 m.
tall "sakahai".

sterile, stem 4 dm. tall,
petioles bronze-mottled,
"tingangai".

subcaulescent, leaves
erect, up to 1.5 m. tall,
"tipurau" corn cooked
in pieces with coconut
milk (squeezed from grated nut)
in coconut shells, or
pounded and cooked with
coconut milk to make a
pudding.

large tree, as much
as 20 m. tall, fruit
eaten cooked in a co-
conut shell with grated
coconut. "tiokun" or "rakun".
plant 1 m. tall.
"tikuch"

acaulescent, leaves
dull, "tisai"
corn eaten

- 26073 *Pteris ^{tipartita}*
occasional, this from
embankment above
Cyrtosperma patch
74. *Pandanus*
very common in woods
mats made from leaves
called "tikahara" and
woven rectangular pillows
called "tirurung".
75. *Pisonia grandis*
occasional in forest.
76. *Terminalia ^{samoensis} ~~litoralis~~ Rech.*
rare (one plant seen)
77. *Hibiscus tiliaceus* L.
common, often at edges
of *Cyrtosperma* patches,
in shade.
78. *Clerodendron inerme* (L.) Gaertn.
common, especially in
open places.
79. *Ipomoea ^{rupestris} ~~albat.~~*
occasional toward outer
beach.

- rhizome short, erect.
"tengasoromangama"
- tree 6 m. tall (fruit), leaves
from seedling beneath
it. "tipin" is ^{large} tree or
trunk. "timangapinu"
is branch "tirahara" is
small tree. "timalarauhara"
is leaves, green or dry.
Fruit eaten. ^{rectangular pillow} ~~called~~
- tree 8 m. tall, sterile.
"tipuka"
- shrub 1.5 m. tall, pubescence
not brown, sterile. "tikaniu".
sterile tree 5 m. tall, leaves
rather green beneath.
"tihaui". fiber of inner
bark used to weave lava-lavas
called "sema". fiber from
bark called "marohau"
sprawling shrub, extensive;
flowers white, purplish
outside, stamens + pistil
purple. "tihia"
- vine climbing in trees
buds white "tihui"

26080. *Morinda citrifolia*
common everywhere

81. *Premna ^{obtusifolia} integrifolia* RB
common everywhere

82. *Vigna marina*
common, mostly along
inner beach

83. *Wedelia biflora*
common, more so along inner beach

84. *Cocos nucifera*
dominant, undoubtedly
planted but self seeding

cooking food in; sprouted nuts
eaten raw or cooked; husks
furnish fibers for sinnet ^{cordage} ~~cord~~,
also dried and used for tinder, or
rotted and used for compost.

"tinia" is general term and for large
tree, "tihono" is small tree; "tirama"
is dried leaves; "tironi" green leaves;
"sagarapi" petioles; "tironin"
leaf except petiole; "simotironin"
is pinnae; "tihakia" fibrous stipules;

(over, to 167)

small tree 5 m. tall,
(some twice as large),
smaller trees usually
~~are~~ sterile except in
open, where also fruit
grows larger. "tinona"
shrub 1.5 m. tall,
sterile. "tioraora"

prostrate, forming
thick loose mat; flowers
yellow. "tuakemoa"
erect to ascending,
up to 0.8 m. tall, flowers
yellow "tiritai".

Tall trees, up to 20-25 m.
(this specimen from small
sapling)² basic plant
in native economy, trunks
used for house ~~posts~~ beams
and sometimes posts; leaves
woven into mats "sabalakaai"
or house walls and roofs
"tinai", young ones woven
into hats and belts to sell
to tourists; young nuts
furnish drinking water,
old ones ^{eaten raw or} grated and put
into practically all
food, shells used to

leaves of this specimen
infected with "leaf
rust of coconut"

24085. *Lepturus repens* (Forst.) R. Br.
one small patch ^{seen} here in
open, common on some
other islets.

86. *Thuarea involuta* (Forst. f.) R. Br.
one small patch seen here
in open place, common on
some other islets.

87. *Sophora tomentosa*
one small patch seen, in
shade near dwelling, possibly
planted.

88. *Cucurbita*
persisting from cultivation
in thin woods.

89. *Pomoea* ^{*littoralis* Bl.} ~~*gracilis*~~
~~not~~ common locally

90. *Carica papaya* L.
not common, very local
"tiakai meimeapu" is flowers

"sonoria" is roots; "timataari"
is very young, small nuts;
"tirumata" is half grown
nuts; "timatu" full grown
nuts; "tisup" is sprouted
nuts; "suakang amatu" is
husks; "tiipu" is shell;
"tikaniu" is nut meat.

tufts with runners
"tikengasor"

prostrate

shrubs 1.5 m. tall, sterile;
"ti rakaubaiho".

prostrate, extensive,
sterile. "pukhin" said
to have been cultivated
by Japanese.
vine, mostly sterile;
flower purple, deeper in
center. "tihi" "ti akhai hui"
(prob. refers to fls.)
single stem up to 3 m.
tall, fls. cream white, fragrant.
"memeapu" "tiakameimeapu" is leaves.

- 26091 Polyporus
on dead wood
- 92 Tridinium acutifolium
common on rocks in shade
- 93 Polyporus
~~common on~~ on dead wood
- 94 Leucophanes glauculum
on bases of coconut trees
- 95 Tacca leontopodioides (L.) Ktze
locally common
- 96 Ipomoea pes-caprae (L.)
abundant in one place
near Japanese establishment,
especially in an enormous
bomb crater
- 97 Pipturus argenteus (Forst.) Wedd.
occasional in forest.
- 98 Musa ^{paradisica} sapientum
planted ~~also~~ in much
of edges of Cyrtosperma
patch in excavation
- 99 Canavalia microcarpa? ^{Cathartica Thunberg}
common locally in woods
near inner beach

timeikiri tononui

herb 1.5 m. tall, very
luxuriant, flowers
green, linear bracts
blackish, broad ones
blackish toward margin.
"timeeraratireku" tuber eaten
prostrate, luxuriant,
flowers bright purple,
beginning to wilt in
late afternoon. said to
have been brought in by
Japanese. "tihiuuke"
shrub 2 m. tall; ripe
fruit white; "tiwarenga"
plant 2.5 m. tall
"tihus" is plant
that "tiarabus" leaves.
vine climbing in trees,
sterile. "suakimo"

26100, *Hedyclium coronarium*?

growing in wet mud
of *Cyrtosperma* patch in
excavations

01. *Jussiaea suffruticosa* var. *ligustrifolia* (HBK) Griseb.
weed in *Cyrtosperma* patch
in wet mud.

02. *Polypcias fruticosa*
commonly planted, especially
around cemeteries.

03. *Polypcias sentellaria*
planted, especially around
cemeteries.

04. *Cinnam. asiaticum* L.
commonly planted around
houses and cemeteries.

05. *Plumeria rubra* L.

06. *Phomes*
common on rotting wood

07. *Flemingia nuda* (L.) Gaud.
common locally in woods

08. *Thespesia populnea* (L.) DC. & Con.
very rare near inner beach.

09. *Premna ~~integrifolia~~ obtusifolia* R. Br.
common everywhere
this near inner beach

sterile roots aromatic
with resin. and a "sintia"
t worn

1.5 m.

largely eaten
a breadfruit-like

with a "sintia"
inal

arranged
reely
my "poko"

"tiran-

tall,

"tiwarowno"

stems fleshy, only
slightly reddish.
"tiwarengata"

small sterile tree, very
chlorotic "tipingipingi"
shrub 4 m. tall
"tiwarowno"

valley

large, low, dark
- broad fronted
- with a small
- narrow, flat
- (notice)
- of the other,
etc

26100, *Hedychium coronarium*?

growing in wet mud
of *Cyrtosperma* patch in
excavations

01. *Jussiaea suffruticosa* var. *ligustrifolia* (HBK) Griseb.
weed in *Cyrtosperma* patch
in wet mud.

02. *Polypcias fruticosa*
commonly planted, especially
around cemeteries.

03. *Polypcias scutellaria*?
planted, especially around
cemeteries.

04. *Criminum asiaticum* L.
commonly planted around
houses and cemeteries.

05. *Plumeria rubra* L.

06. *Phome*
common on rotting wood

07. *Fleurya ruderalis* (Forst. f.) Gand.
common locally in woods

08. *Thespesia populnea* (L.) Forst. & Arn.
very rare near inner beach.

09. *Premna ~~integrifolia~~ obtusifolia* R. Br.
common everywhere
this near inner beach

sterile, roots aromatic
with ginger odor "sintia"
flowers said to be worn
behind ear.

erect herbs 1 - 1.5 m.

Tall; flowers yellow;
"nikengarotoai"

erect herb 1 - 3 m. tall.

"tirakahumutaru"
inflorescence a terminal
cluster of panicles arranged
in 2 rough whorls.

erect, sterile, scarcely
branched bush

"tirakapo humutaru poko"
rosettes, sterile.

"sarataru" leaves are "tiran-
tarataru".

small shrub 1 m. tall,
sterile. "tirakamhaiakai".

stems fleshy, only
slightly reddish.

"tiwarengas")

small sterile tree, very
chlorotic "tipingipingi"

shrub 4 m. tall

"tiworoworo"

1946 Caroline Is.

26110, *Calophyllum inophyllum* L.
occasional near inner beach,
usually near dwellings

Pandanus tectorius
coll. R. Oakley

Aug. 4 Soho (Toho, Sou Hou)
Islet

completely occupied
by village, herbaceous
vegetation ~~comp~~ absent
except a few planted things

11. *Zephyranthes rosea* Lindl.
cultivated for borders

Hirsutula
Nephrolepis multiflora (Roxb.) Javall.
12. *Cinnamomum asiaticum* L.

cultivated extensively
as an ornamental

13. *Plumeria rubra* L.
cultivated

Kapingamarangi

tree 3 m. tall, (others larger)
"te tau"

fruiting when stem is
not more than 4 dm. tall.
fruit very immature.

caespitose, fls. rose pink.
"ti haka'i" said to have
been brought from Ponape
whence it had been
brought from Marshall Is.,
whence from Hawaii.

det.
Fosberg & Wong

leaves clear green,
flowers white "taratai"
flower worn behind ear.
shrub 2.5 m. tall,
fls. white with yellow
toward center, reddish
outside, worn behind
ear.

1946

Caroline Is.

Aug. 11 Uenu Islet

with
C. Wong

Mostly occupied along
inner beach by village,
Cyrtosperma patches in
entire center, thickets
along outer beach, with
a few houses.

26/14

on dead wood

15. ~~Lecanostictus~~ leucophanus glauculum
on coconut trunk

16. Hibiscus tiliaceus L.
common, most frequent.
around Cyrtosperma patches

17. Cyrtosperma ~~chamissoi~~ Schott
extensively cultivated in
deep, muck-filled excavations
Cyrtosperma merkurii (Hassk.) Schott
det. P.C. Boyce 5/1997

18. Pandanus ~~fragrans~~ ^{dubius Spreng.}
one tree seen, probably
planted

19. Barringtonia asiatica (L.) Kuntz
one small plant seen, probably
planted

Kapingamarangi

white, stipe orange.
shape variable.
light green cushion

tree 7 m. tall, flowers
yellow, turning red.
"tihaui"

peduncle 1 m. tall, larger
leaves 2-3 m. tall, scarcely
prickly, very uniform.
"ti purau" corm eaten,
is basic food of atoll.
Cooked in pieces with
coconut milk in coconut
shells, or pounded and
cooked with coconut milk
as pudding.

tree 4 m. tall, sterile.

sedling 1.5 m. tall, sterile

26119. *Codiaeum variegatum*
planted, rare
20. *Terminalia catappa* L.
planted rare
21. *Schroesia* (?) *lutea* Manghas L. ?
one tree seen, probably planted.
22. *Nephrolepis hirsutula* (Forst.) Presl
common here, mostly
on ~~seashore~~ outer side
and around *Cyrtosperma*
patches
23. *Polyporus*
on dead wood
24. *Cassia alata* L.
planted around edges
of much in *Cyrtosperma* patches
25. *Paspalum vaginatum* Sw.
one patch ~~left on~~, probably
planted, on side of pile
of coral from excavation
for *Cyrtosperma* patch

shrub 1.5 m. tall,
leaves green above, purple
below somewhat variegated
said to be brought from
Ponape.

small broken down
sterile tree, "tikekepin"
said to have been brought
from Ponape. Pubescence brown.
slender tree 7 m. tall,
sterile, leaves very
chlorotic.

rhizome erect to
decumbent, sometimes
elongate "tinjo"

sterile shrubs, 1-1.5
m. tall, very chlorotic.
"tirakahonuki" said to
have been brought from
Ponape.

dense mat, sterile

1946 Caroline Is.

26/26 Pandanus *tectorius* Park.
common27. Hibiscus - hybrid prob.
rosa-sinensis x *schizopetalus*
cult. in edges of28. Eragrostis amabilis (L.) W. & A.
one small patch in dooryard29. Digitaria pruriens var. pruriens approaching
along path in village var. microbachne30. Amnicularia
on dead Coconut trunk31. Crinum
cultivated32. Eleusine indica (L.) Gaertn.
along path in villagetree 6 m. tall, fruits
beneath on ground,
said to be eaten, flesh
yellow. "tipin".~~cultivated~~ shrub 2
m tall, flowers
red.

spreading tufts.

gelatinous. said not
to be eaten, locally.
leaves reddish,
peduncle and bracts
maroon, flowers
purplish
outside, esp.
on mid-part of
segments, tube ~~purple~~
maroon
large spreading
tufts

1944

Caroline Is.

~~24~~ Aug. 4 Soho Is.26133, *Ocimum sanctum* L.
planted, rare34 ~~*Cordia subcordata*~~~~rare~~

Aug. 4 Paraka Islet

small area of coconuts
with small thicket on
windward side - soil
of rubble and broken rocks.34 *Cordia subcordata* Lam.

small group in thicket

Aug. 4 Nunakita (Nunakitsu)
Islet.Coconuts on inner side,
extensive low thickets on
outer side.35 *Fimbristylis cymosa*
very local.36 *Cucurbita*persisting from cultivation
around old Japanese
installation37 *Digitaria pruriens* var. *pruriens* approaching
very abundant in opening,
covering bombed Japanese
installation

Kapingamarangi

herb with strong odor,
whitish flowers "aroak"
~~racemes~~ racemes worn behind ear.tree 5 m. tall, sterile,
twig tips badly damaged
by insects. "tirdkaumi"tufts, leaves somewhat
stiff. "tikorokoro"
prostrate, extensive,
leaves gray spotted, only
staminate flowers seen.
"punkun" ^{these orange}
deep tangles 1 m. deep.var.
microbachne

- 26/38. *Thuarea involuta* (Forst. f.) ^{Bl.}
abundant locally,
especially in openings
39. *Allophylus* ^{reticulatus (Sw.) P.} *immanis* Bl.
rare, one plant seen
40. *Premna* ^{obtusifolia Bl.} *integerrima* L.
common everywhere
41. *Clerodendrum inerme* (L.) Gaertn.
common, especially in
openings
42. *Stenotaphrum* ^{micranthum (Desv.) Hall.} ~~subulatum~~
~~com~~ abundant under
coconut trees

#3

Aug. 4 Tuvaimu Islet
small, pebble surface,
covered with coconuts
rather open beneath

43. *Cassytha filiformis* L.
common, especially
parasitic on *Guettarda*

44. *Triumfetta procumbens* Forst. f.
common generally,
especially on inner side

Kapingamarangi
forming a thick mat.

sterile bush 1 m. tall

small tree 4 m. tall,
flowers pale green
sprawling extensive
shrub, flowers white,
buds tipped with pink,
stamens and style maroon-purple
forming a thick mat.

leafless green vine
(yellow in sun), flowers
white, fruit green
"tivioq"

prostrate, extensive
flowers yellow.
"Tamotiaka"

Aug. 5 Matiro Islet
Forest of Coconut, Pandanus
some Artocarpus, some
Guettarda, Morinda etc.
little undergrowth

26145. *Occhrosia oppositifolia* (Lam.) Becken
common in
one small area

46. *Caesalpinia major* (Medic) Exell. Dandy?
one plant seen

47

one plant seen

48. *Blechnum brownii* Juss.

one patch seen, abundant
in this patch

49. *Pandanus tectorius* Park.
common everywhere

50. *Pandanus tectorius* Park.
~~see~~ less common than #26145

51. *Terminalia catappa* L.
rare

tree 3 m. tall, fruit
on ground beneath
shrubby vine, sterile
"tirakantutua"

sterile vine

"tirakantoroto"

prostrate, tips ascending
flower lavender, rare.

"tikeinatoto"

tree 4 m. tall (others
much taller), leaves
very long, fruit
generally large, edible
"tipin"

tree 5 m. tall, fruit
large and small on
same tree, leaves short,
stem more slender and
leaves shorter than #26149
fruits identical, both edible
"tipin".

tree 8 m. tall, sterile,
pubescence brown
"tikekapin"

1946 Caroline Is.

26152. *Terminalia* ^{*samoensis* Rech.} ~~*litoralis*~~
occasional

53. *Cordia subcordata* Lam.
rare, near inner beach

Kapingamarangi Atoll

words picked up
tihanuung - string of small
glass beads

pahu - giant clam

tigihā
or tikiha - white seal

tigarapi - black sea cucumber

tipeau - waves

niauwaina - rain

tisai - sea

niauwai - sea water

niawaitai - sea water dipped up

niherehere aure - soil

niherehere keene - sand

setepin - coral reef rock

tikahara - pandanus mat

tetu - chicken pik a pig - pig

~~land~~ + sound tends

to change to l, though

tikatai -
round coconut
leaf basket
akai - flower
tiare - house

Kapingamarangi

tree 5 m tall north.

Islets of Kapingamarangi Atoll
(south to north)

Motokerekere

Fumatahachi

Terakaumea

Toko

Tia

Tari

Tirakau

Herekoro

Herengau

Hare

Tangawak

Takairong

Niguat

Seetau

Tipa

Hepepa

Hukuenua

Matahei

Tateng

Lamot

Matikatuk

Matiro (Machiro)

Pungupu or Pungapung

Taarin

Soho (Souhou) (Souwou)

Ueru

Paraka

Pukuniu

Nunakita (Nunakitsu)

Pepeio

Turuain (Turuwain)

Tingutor (Rugureru) (Rumetoru)

Toronghai

vanuam. faces road,
features rather coarse.

1946 Caroline Is.

26/10/46 Terminalia ~~litoralis~~ ^{samoensis} Rech.(Notes of 1946/1947)
(Notes of 1946/1947)

Terminalia

Terminalia

Terminalia

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

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T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

T. litoralis

to change u ~, u ~ ugr

Kapingamarangi

187

tree 5 m tall, mostly
rather defoliated,
pubescence not brown; sterile.
fruit not eaten

"tirantarihia"

small tree, sterile,
twigs all damaged
by insects. "tirakaumea"

+ seems dominant. & tends
to approach g, but & seems
dominant. ng quite soft.
t tends to change to ch, p to b.
One black starling - like
land bird seen.

No white terns seen.

Black ones rather common.

People look Polynesian
all right, though with
some Micronesian admixture,
a little Japanese in children,
and a rather widespread
tendency toward red hair.
Many men quite heavily
bearded.

Women tend to be fat,
remarkably little facial
variation. Faces broad,
features rather coarse.

underlying to
not final
vowel

216

217

218

1946 Caroline Is.

The islets are 32 in number, on the east half of the reef, forming a crescent. They vary greatly in size, from Hare which is $\frac{1}{2}$ mile long to several which are not over 50 yards across. The soil is very good on most of the larger islands and becomes very little more rocky on the windward side. It is ordinarily more humus than sand, with pebbles on the surface. On the smaller islands rubble and broken rock predominate.

All of the islands are thickly planted to coconuts, though on ~~Hare~~ Nunakita the outer third has had them destroyed. They are now largely replanted. Here was a Japanese observation tower.

On some of the islands the coral seems to be elevated as much as 2-3 m., but

Kapingamarangi

I saw no signs of makeatea development. One hill 10 m. or so exists made up of coral debris from *Lytophoma* patch excavation.

Undergrowth is quite sparse, mostly young *Premna* and *Morinda*. *Artocarpus*, *Guetarda*, *Morinda*, and *Premna* are common in the forest. *Pisonia* ^{*Hibiscus tiliaceus*} occasional, *Occhrosia* rare and local. *Calophyllum* is occasional on the inner side, and often near houses. *Messerschmidia* is common as also *Guetarda*, on the outer beach. *Scaevola*, up to 5 m. tall, forms an outer fringe. *Lepturus* and *Fimbristylis* locally outside this.

A *Digitaria*-like grass is abundant under the trees. There are some indications that the lack of undergrowth results from periodic

clearing.

Epiphytes are very few, except for mosses and a few *Asplenium nidus* on the bases of coconut trees.

Asplenium nidus and *Thuidium* sp. are common on rocks and the former on the ground. The only other two ferns seen are *Pteris* sp. which is rare, and *Nephrolepis* sp. which is common on Uenu and, acc. ~~that~~ Paul Jantl, very abundant, forming the main undergrowth on the 2 northern islands.

The centers of ~~most~~ ^{many} of the islands, especially Uenu, are occupied by great pits partially filled with mud formed from coconut husks and other rubbish, in which *Cyrtosperma* is cultivated, also *Colocasia* on much smaller scale, with a few bananas and ornamentals. A tremendous amount of

earth has been excavated and piled in dikes and hills along side *Cyrtosperma*. Breadfruit and coconut are the basic food plants of the island. With fish, hogs and poultry they make up most of the diet.

The striking thing about the flora is the absence of many of the expected ~~as~~ low island species, both native and weeds. Of course, since the islands were not thoroughly covered, it is not possible to be sure these species are absent.

However ^{lacking} - *Templis acidula*, *Suriana maritima*.

Boerhavia diffusa, *Securium* ~~*portulacastrum*~~ ^{*portulacastrum*}, *Cyperus* ~~*peruvianus*~~ ^{*peruvianus*}.

Euphorbia sp. (25830), etc.

among native plants and *Portulacas*, *Euphorbias*, *Polyposium scolopendria*, *Phyllanthus*, *Aspalathus*, *conjugatum*, *ernovia cinerea*, etc. among introduced

ones may be considered a measure of the isolation of the island. The *Pipers*, *Glochidion*, *Ficus tinctoria*, *Callicarpa*, etc. of the low Carolines further north are of course absent.

The only surprising species present are the *Pteris* and the ~~*Stenotaphrum*~~ common grass (26062, 26142).

It is to be expected that *Paspalum conjugatum* will shortly become established, as seeds were noticed on the shoes of several of our party when they went ashore.

Bamboo is absent but large culms may be seen in use. They have been brought from Ponape.

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[Faint, illegible handwriting on the right page, possibly bleed-through from the reverse side.]

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH ADMINISTRATION

BUREAU OF PLANT INDUSTRY, SOILS, AND
AGRICULTURAL ENGINEERING

Division of
Mycology and Disease Survey

BELTSVILLE, MARYLAND

February 14, 1947

Dr. F. R. Fosberg
c/o Mr. S. P. Killip
U. S. National Herbarium
Smithsonian Institute
Washington, D. C.

Dear Dr. Fosberg:

This is to report upon the identifications of the 23 specimens left in my care several days ago and referred to in my communication of February 10.

24592. Auricularia polytricha (Mont.) Sacc. (Det. W.W.D.)
24690. Polyporus microporus Sw. ex Fr. (Det. J.A.Stevenson)
24691. Pleurotus sp. (Det. D.)
24725. Uromyces proeminens (DC.) Pass. II-III. (Det. S.)
24940. Polyporus sanguinens L. ex Fr. (Det. S. & D.)
24941. Polyporus crocatus Fr. (Det. S.)
26091. Polyporus gallo-pavonius (Sw.) Fr. (Det. S.)
26093. Polyporus gallo-pavonius (Sw.) Fr.
26106. Fomes applanatus (Fr.) Gill. (Det. S.)
26114. Xerotus rawakensis Pers. ex Fr. var. excentricus Mont. (Det. D.)
26123. Polyporus occidentalis Kl. (Det. S.)
26130. Auricularia polytricha (Mont.) Sacc. (Det. D.)
26141. Schizophyllum radiatum (Sw.) Fr. (Det. D.) (label lacking)
26417. Sticta dichotoma Bory (Det. D.)
26467. Polyporus flabelliformis Kl. (Det. S.)
26530. Polyporus gallo-pavonius Berk. (Det. S.)
26531. Polyporus microporus Sw. ex Fr. (Det. S.)
26532. Ganoderma mangiferae Lev. (" S)
26689. Polyporus sanguineus L. ex Fr. (Det. S.)
26829. Fomes applanatus (Fr.) Gill. (" ..
26830. Polyporus gallo-pavonius Berk.
26844. Auricularia polytricha (Mont.) Sacc. (" ..)
27007. Albugo plantensis (Speg.) Swingle (" ..)

One specimen of each of the above is deposited in the Mycological Collections here and, as agreed upon when you left them in my care, where possible one replicate for the University of Hawaii and additional replicates for your other disposition are returned herewith. In the case of number 24691 the material was too scant for division and consequently all of it is deposited here.

Very truly yours,

William W. Diehl
Mycologist

William W. Diehl

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